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# THE MEDICAL RECORD.

## A Weekly Journal of Medicine and Surgery.

EDITED BY

GEORGE F. SHRADY, A.M., M.D.,

SURGEON TO THE PRESBYTERIAN AND ST. FRANCIS HOSPITALS, NEW YORK.

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## Original Communications.

### THE QUESTION OF AXILLARY OR ISCHIATIC SUPPORT IN THE TREATMENT OF JOINT DISEASES OF THE LOWER EXTREMITY.

BY A. B. JUDSON, M.D.,

NEW YORK.

(Read before the New York Academy of Medicine, June 16, 1881.)

AFFECTIONS of the joints of the lower extremity present some noticeable features of pathology, requiring corresponding peculiarities of treatment, when compared with similar affections occurring in the upper extremity. The exceptional pathological traits here alluded to, have their origin in the fact that the joints of the lower extremity are habitually exposed to great pressure in the standing position, which is on occasion maintained for long periods, and to the violence incident to the act of walking, violence which may well be termed momentous when the joints are called upon to endure the repeated and heavy blows inflicted by running. For the purposes of this paper, disease of the hip-joint, which has given rise to so many essays and discussions and surgical inventions, may be taken as the type of diseases of the joints of the lower extremity. Dr. Edmund Andrews, of Chicago, has portrayed the injury to which the diseased hip-joint is exposed by locomotion in the following words: "The synovial membrane, when inflamed, becomes roughened, yet upon this inflamed and rough surface the entire weight of the body presses, rubs, and grinds at every step. Of course under such harsh usage no tissue could be expected to recover without serious mischief, and especially the exquisite machinery of the joint."[1]

The assumption of the recumbent position at once removes from the joint this source of danger, and this resort has doubtless been made instinctively and by prescription ever since the earliest times of medicine and surgery. This position is a feature of some of the accepted modes of treatment of hip-disease, and it may be considered in many cases as contributing to their success. Its usefulness is limited by the fact that it cannot be maintained throughout the long period of an ordinary case of hip-disease, an affection which is almost invariably marked by long intervals in which the patient is free from pain, and, to all appearances, quite able to follow the ordinary pursuits of life.

The use of crutches, to facilitate locomotion and to prevent pain in diseases of the joints of the lower extremity, has also been commonly resorted to, in all probability since very early times. Their persistent and long-continued use was prescribed by Mr. Edward Ford. After referring to the advantages derived from the use of Le Vacher's apparatus for supporting some part of the weight of the head in caries of the cervical and upper dorsal vertebræ, he quaintly adds: "It would be fortunate if the knowledge of these circumstances could suggest any mechanical improvement calculated to produce the same beneficial effect in hip-disease; as nothing can be clearer, from rational manifest indications, than that the patient must feel ease and advantage, from every expedient to prevent the weight of the body, in any degree whatsoever, from pressing on the joint."[2] His mechanical resources began and ended with the use of crutches. The simplicity of his views and method even led him to condemn the attempts, which were in vogue at that time, to overcome the apparent shortening of the affected limb by adding a leaden weight to the sole of the shoe of the affected side. A few years later, Mr. Brodie wrote as follows: "If the disease (scrophulous disease of the joints) be in the lower extremity, he (the patient) should never rest the weight of the body on the foot belonging to it; he should never walk, except with the assistance of a crutch."[3]

Notwithstanding these authoritative prescriptions, crutches in the hands of a patient suffering from hip-disease have for many years been considered simply as means for facilitating locomotion—rather as insignia of the crippled condition than as instruments for the relief of pain and the promotion of recovery. Within a few years, however, the attention of the profession has been directed to the advantages to be derived from the continued use of crutches throughout the long period usually covered by the history of a case of this kind, and commendable attempts have been made to reduce to the minimum the inevitable inconveniences which attend their use. The ingenious apparatus of M. Mathieu is worthy of note. It consists of two axillary supports combined with a system of jointed rods which permit the patient to sit down, but which, when he assumes the erect position, transmit the weight of the trunk to the ground without allowing it to pass through the femurs.[4] This instrument is seldom, if ever, used in this country. It is our custom, when crutches are employed in the treatment of hip-disease, to raise the foot of the affected limb from the ground by giving a fictitious increase of length to the unaffected limb by the addition of an elevated sole to the shoe worn on that side. The earliest reference to this use of an elevated shoe and crutches, is found in a paper published by our eminent fellow, Dr. C. Fayette Taylor, in 1867, in which he says: "Indeed, many have advised—as I sometimes have when circumstances were such that nothing better could be done—patients to wear a thick sole on the foot of the *well* leg and use crutches, letting the lame leg hang. The only difficulty is in carrying the plan into practice with sufficient perseverance and uniformity."[5]

This device is an important feature of the method of Mr. Hugh Owen Thomas, of Liverpool.[6] It is also favorably mentioned by our honored fellow, Dr. Sayre, who, speaking of the treatment of hip-disease, says: "Another method is, in addition to the bed-extension, to make extension by increasing the

[1] Chicago Medical Examiner, p. 427, September, 1868.

[2] Observations on Diseases of the Hip-joint, p. 127. London, 1794.

[3] Diseases of the Joints, p. 242. London, 1818.

[4] Traité de Thérapeutique de la Coxalgie, pp. 417, 418. Philipeaux, Paris, 1867.

[5] The MEDICAL RECORD, p 291, September 1, 1867.

[6] Hip, Knee, and Ankle. Liverpool, 1875.

weight of the shoe worn upon the foot of the affected limb, and permitting the patient to go about on crutches. This can be done by running lead into the sole of the shoe. In such a case you will be obliged to increase the length of the sound leg by making the sole of the shoe considerably thicker." [7] Drs. John A. Wyeth [8] and Charles F. Stillman,[9] of this city, and Dr. De F. Willard,[10] of Philadelphia, have adopted crutches and an elevated shoe as features of their respective methods of treating hip-disease, and Dr. Richard J. Levis, also of Philadelphia, has ingeniously obviated the necessity of wearing an elevated shoe on the sound foot by flexing the knee of the affected limb and keeping it flexed with a silicate bandage.[11] The treatment of joint diseases of the lower extremity by the use of crutches or Darrach's wheel-crutch and an elevated shoe, has found a warm friend in our distinguished fellow, Dr. Joseph C. Hutchison. He prescribes this method in hip-disease to the almost complete exclusion of all other mechanical appliances.[12] It is due to his learned advocacy that this easy method is to-day very widely accepted as the simplest and most effective method of treating hip-disease. The question occurs whether the weapon is not too light and easily handled for successful combat with a foe so insidious, tenacious, and destructive.

The method of protecting the diseased hip, knee, or ankle-joint from pressure and concussion by the use of crutches transfers a large part of the weight of the body from the diseased joint to the axillary regions. The only alternative when the patient is erect, is to transfer this weight to the ischiatic tuberosity and the rami of the ischium and pubes. Throwing the weight of the body on to this region of the os innominatum in locomotion is not altogether a modern experiment. In Malaigne's "Paré" [13] may be seen a wood-cut representing a crutch for the relief of lameness resulting from a shortened limb. It has a curved projection, evidently designed to receive the upper part of the femur and the tuberosity of the ischium. The prothetic apparatus of MM. Mille and F. Martin [14] received the bones of the pelvis, and thus supported the weight of the body. Mr. Bigg says: "In the construction of the bucket of an artificial leg only one spot, the tuberosity of the ischium, exists where the bearing of the body can be correctly placed." [15]

M. Ferdinand Martin constructed an apparatus for the treatment of hip-disease, which is shown in Bonnet's "Therapeutics of Articular Diseases." [16] From this cut it is evident that the intention was to receive the weight of the body on two perineal straps attached to a pelvic band. This instrument was, however, discarded by its inventor, if a correct inference may be drawn from the fact that his more recent hip-splint is an entirely different apparatus.[17] M. Bonnet sought to make use of ischiatic support in the treatment of hip-disease, adapting for his purpose an instrument of Italian origin, in use at that time in the treatment of disease of the knee-joint. He was, however, discouraged by the difficulty in adjusting the apparatus, which arose from the adduction of the femur, and resorted to an instrument furnishing axillary support,[18] similar in its action to the jointed rods of M. Mathieu.

Dr. Henry G. Davis, although he modified the methods of this branch of surgery in very many important particulars, failed to produce an effective instrument for ischiatic support. His hip splint was described in April, 1860.[19] It had a perineal strap and extended to within a short distance above the outer malleolus. From his subsequent writings [20] it appears that he was of the opinion that this instrument received the weight of the body and transmitted it to the ground through the intervention of the patient's foot and the adhesive plaster attached to the limb. It is believed now that the adhesion of the plaster would be entirely incompetent to support the weight of the patient when erect and walking. This attempt therefore to provide ischiatic support, or to relieve the affected joint by allowing the weight of the body to rest upon a splint applied to the ischiatic tuberosity, was a failure, because the lower extremity of the splint fell short of reaching the ground.

Dr. Andrews was probably the first to solve the problem of efficient ischiatic support in joint diseases of the lower extremity. In December, 1860, he described a hip-splint, the upper part of which was (to use his own language) "a crutch top well padded, which rests against the perineum." He wrote that when the splint is applied, "the weight of the patient rests upon the instrument, and the instrument upon the ground." [21] In the following year, describing this splint, he wrote: "The top supports the perineum by a crutch-piece, padded and covered with patent leather, and the bottom is attached firmly to the sole of the shoe, and at each step transmits the weight of the body directly to the ground." [22] In 1866, Dr. David Prince, of Jacksonville, Ill., described an inexpensive and rude, but probably efficient modification of Dr. Andrews' apparatus, [23] and in 1867 Dr. Taylor described the hip-splint which is widely and justly called by his name.[24] It is so well known that a description here the weight of the body in standing from the joint to is unnecessary. As an apparatus for removing the inferior surfaces of the ischium and pubes, the features which distinguish it from the instruments of both Drs. Davis and Andrews are found in the presence of a pelvic band, and in the fact that it is provided with two perineal straps instead of one. Drawing my inferences solely from the published literature of the subject, the splint in question appears to be the result of an evolution in which may be traced the following steps.

We have, first, the portative splint of Dr. Davis, reaching not below the ankle, with but one perineal strap, and without a pelvic band. Then we have Dr. Andrews' splint, reaching to the ground, and acting against the perineum of only one side. Then we have Dr. Sayre's short splint, reaching not below the knee, with one perineal strap and without a pelvic band. [25] Then we have a pelvic band of limited length, and carrying, as yet, but a single perineal strap attached by Dr. Taylor, first to the short splint of Dr. Sayre,[26] and then to the splint of Dr.

[7] Lectures on Orthopedic Surgery, p. 272. New York, 1876.
[8] The Medical Gazette, pp. 243, 244. April 17, 1880.
[9] The MEDICAL RECORD, pp. 620–624, December 4, 1880.
[10] Philadelphia Medical Times, pp. 71–73, November 6, 1880.
[11] Ibid., p. 280, January 29, 1881.
[12] Contributions to Orthopedic Surgery. New York, 1880.
[13] Vol. ii., p. 621.
[14] Gazette Méd. de Paris, p. 494, 1837; p. 254, 1838.
[15] Orthopraxy, p. 575. London, 1877.
[16] Pp. 416, 417. Paris, 1853.
[17] De la Coxalgie, pp. 488–496. Martin et Collineau, Paris, 1865.
[18] Bonnet, op. cit., pp. 347, 433.
[19] American Medical Monthly, pp. 262–268, April, 1860.
[20] Transactions American Medical Association, pp. 150, 162. 1863.
[21] Chicago Medical Examiner, pp. 751–755, December, 1860.
[22] Ibid., pp. 292–295, June, 1861.
[23] Orthopedics, p. 93–95. Philadelphia, 1866.
[24] MEDICAL RECORD, pp 289–291, September 1, 1867.
[25] American Medical Times, pp. 411, 415, June 29, 1861.
[26] Ibid., pp. 37, 38, July 20, 1861.

Davis.[27] Finally, we have Dr. Taylor's splint, described by him in 1867, as it remains, without radical change, to the present time, reaching to the ground and provided with a band including a large part of the circumference of the pelvis, and carrying two perineal straps. Viewing it solely as an instrument for ischiatic support, and closing our eyes to its important and beneficent action as an instrument for the application of extension and counter-extension, this apparatus is a rare example of the successful adaptation of simple means to an important end.

Leaving out of view other and more important uses or functions of the hip-splint, it may be considered as a pair of crutches applied to the ischiatic or perineal, instead of to the axillary regions. Viewed thus as an appliance for averting pressure and concussion from the joint in the acts of standing and walking, how does the hip-splint compare with the other methods in use for effecting this object?

It is better than the recumbent position, not because it fortifies the general health of the patient by permitting exercise, for evidence is not wanting that the general condition is improved in many cases by persistence in the recumbent position, but because this position cannot be enforced through the duration of an ordinary case. The incipient and convalescent stages are, in many cases, not only of great duration, but also of great freedom from pain. In these stages it is impracticable, from the nature of the case, to enforce the recumbent position, while the hip-splint can be worn, with little inconvenience, for months and years, securing protection from pressure and concussion, permitting wide liberty in locomotion, and enabling the patient to follow the ordinary pursuits of life.

It is better than the use of crutches, either with or without the elevated shoe, for several reasons. Not the least of these is found in the fact that locomotion with crutches requires the use of both hands, while with the hip-splint the hands and arms of the patient are as much unoccupied as though he were entirely free from encumbrance. Again, the hip-splint is ever present, while crutches may be mislaid or temporarily discarded, especially if the patient is free from pain and averse to their use. Finally, a strong argument in favor of the superiority of the hip-splint when compared with the use of crutches, is found in a consideration of the anatomy and physiology of the parts of the body which are involved. The axillary region, from the softness of its structures, from the presence of the brachial plexus, and from the absence of a firm osseous connection between the upper extremity and the trunk, is painfully ill-adapted to the duty of supporting the weight of the body in locomotion; while the ischiatic region, which receives the perineal straps of the hip-splint, is accustomed to bear the weight of the body in sitting, and is recognized as peculiarly adapted for this purpose by the basilar character of the bones of the pelvis.

Dr. Taylor, describing this use of the hip-splint, writes: "The patient sits firmly upon the padded straps, which, passing under the ischia and perineum, are attached to the pelvic band in front and behind."[28] Although the patient is erect, the word *sit* is perfectly correct in this connection, because the patient's weight rests on the ischiatic tuberosities, the seat-bones, as they are termed by horsemen, as truly as if he were sitting on a chair. Observation of a patient thus equipped, and walking without assistance, shows that progression is made by alternately throwing the weight on the unaffected limb and on the perineal straps, the affected limb being suspended, or, at most, touching the ground lightly with the toes. When the patient is erect, and divides his weight between the sound limb and the splint, he doubtless experiences a combination of the sensations of sitting and standing, and it is not altogether fanciful to say that in walking or running he alternately takes a step and sits down, taking a step with the sound limb and then sitting on the perineal straps. It is related of a bright little boy, to whom this splint was applied, that he immediately walked gaily about the room, exclaiming, at the same time: "I'm sitting down." It is not to be inferred from this fable that locomotion with the hip-splint is at once performed easily and gracefully. It is a difficult apparatus to adjust or to learn to wear with satisfaction. But that it is successfully applied in a large number of cases, and does not very seriously interfere with locomotion, is sufficiently obvious on the thoroughfares of this city. Mr. William Adams, on his return to London, reported upon what he was pleased to call the "American idea" in the treatment of hip-disease, and said, in reference to the hip-splint: "Children with hip-joint disease in a more chronic form are frequently seen walking about the streets of New York wearing these supports, and are enabled to get in and out of the tramway cars without difficulty."[29] As an instance of the degree of ability that may be enjoyed by a person wearing this apparatus, I may cite the case of a patient suffering from hip-disease who has worn a splint, with an elevated shoe on the foot of the sound side for the past two years, holding at the same time an appointment as teacher in one of the public schools, and performing all the duties of her position. She walks without crutch or cane, and without touching the ground with the toes of the affected limb, and goes about the city by the elevated roads, or otherwise, without assistance.

Preventing the foot from contact with the ground in locomotion converts the limb into a pendent member. It then hangs from the trunk as the arm swings at the side, its joints receiving no more pressure or concussion than the joints of the upper extremity. This disposition eliminates from diseases of the joints of the lower extremity the exceptional pathological traits which distinguish them from the corresponding affections of the joints of the upper extremity.

Practically, it is important to have the hip-splint made sufficiently strong, especially in the pelvic band, which supports the perineal straps at a great disadvantage, to sustain without yielding the weight of the patient. It will be found necessary to combat the very natural and common prejudice against applying a heavy and unyielding instrument to a feeble and suffering patient. But it may be borne in mind that, during a large part of the time when the patient is erect, the splint is resting on the ground, when it may be said that the splint carries the patient instead of being carried by him.

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A Clinical Professor of Diseases of the Nervous System is to be added to the Faculty of Medicine of Paris.

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[27] Medical Record, December 15, 1866, p. 487.

[28] Mechanical Treatment of Disease of the Hip-joint, p. 35. New York, 1873.

[29] British Medical Journal, p. 11, January 5, 1878.

# INOCULATION OF BOTH EYES FOR COMPLETE PANNUS WITH GONORRHŒAL PUS.

## Recovery of Sight after Eleven Years of Blindness.*

By E. S. PECK, M.D.,

Aural Surgeon to the Metropolitan Throat Hospital; Visiting-Surgeon to the Charity Hospital.

The following clinical notes of a very interesting case of pannus crassus were furnished by Dr. Steers, house surgeon in charge of the ophthalmic division of the Charity Hospital at that time. They are offered for publication both on account of the bold measures employed in treatment, and of the happy results obtained.

TRACHOMA— PANNUS (BOTH)—INOCULATION.

John Smith, aged twenty-one years, single, born in the United States, worker in varnish, entered the eye ward of Charity Hospital, Blackwell's Island, October 18, 1880.

*History.*—Patient came to hospital suffering from trachomatous pannus in both eyes; duration in the right eye four years, in the left eleven years. He attributes this trouble to use of dirty towels at an orphan asylum in which he passed a portion of his boyhood. On admission, patient could merely make his way around the ward; sight of right eye was better than that of left. Patient was ordered to bed, with constant application of hot compresses night and day; also a solution of nitrate of silver, gr. xx., ad. aq. ʒj. twice daily to the inner lid surfaces and cornea.

November 30th.—Condition improved as to pain, tumefaction, and infiltration of lids, but no improvement in vision.

December 4th.—Treatment by inoculation was resorted to. First experiment: Pus was taken from a long suppurating wound behind the ear; wound secretes healthy pus; was made by Dr. Peck for the purpose of connecting two post-aural sinuses situated one above the other, four and one-half inches. This pus was rubbed over the cornea of the right eye.

December 7th.—No evidences of any acute inflammatory reaction were present. Second experiment: On the same day pus was taken from the eye of an adult in Ward 7, female, ophthalmic division, suffering with purulent ophthalmia. Pus was injected by means of an hypodermic syringe beneath the conjunctiva of lower right lid. Owing to the movements of the patient, injection was not as successful as could be desired.

December 10th.—No signs of inflammation. Third experiment: Matter was now taken from a recent case of ophthalmia neonatorum in Ward 7, female, and rubbed across the cornea of the right eye.

December 14th.—No signs of inflammatory reaction; and, as a fourth experiment, it was determined to use gonorrhœal pus. A fresh case, of seven days' discharge, was found in one of the male venereal wards. Two drops were applied by means of the finger to the cornea and conjunctiva of the right eye. Orders were given to let it entirely alone, and not to protect the left eye.

December 15th.—Within ten hours after the attempt at inoculation the right eye showed all the signs of an acute ophthalmia. No dressings were ordered, and the disease was left to run its course.

December 16th.—On this, the following day, the left eye developed the same characters of inflammation.

December 25th.—Copious discharge of a creamy, yellow pus from both eyes. Patient complains of considerable pain under the lids.

January 4, 1881.—Ordered a solution of nitrate of silver, gr. x., ad. aq. ʒj., three days of the week, and the same solution, gr. v., ad. aq. ʒj., four days of the week, with constant application of iced-cloths.

Patient was discharged from the hospital at his own request in March, and visited me at the Northwestern Dispensary, April 10th, when a careful examination gave him for vision as follows: Right eye, four years blind and inoculated, V = finger-counting at nine feet; left eye, eleven years blind, inoculated by infection, V = fingers at one and a half feet.

Patient has engaged himself at a livery-stable as hostler, and states that his sight for this purpose is sufficient, and that he suffers no pain nor tenderness. In the right eye the iris and pupil are plainly to be seen.

*Remarks.*—It is a subject of pertinent inquiry whether it be good surgery to undertake so bold a measure as the implantation of inoculable pus of a virulent type in an organ endowed in the first place with a rich system of lymphatic conduits; and, second, whose function is that of a special sense. To this there may be made answer in the category which Mr. Bader* adduces—that is to say, matter may be selected in the following order with regard to the safety of inoculation.

I. Pus taken from a purulent ophthalmia of the infant in a stage of decline of the pyogenic process, and where the cornea had not been perforated.

II. Pus from a purulent ophthalmia of the infant, whose mother suffered from a slight yellow vaginal discharge.

III. Pus from the same, whose mother suffered from gonorrhœa, or whose eyes had coexistent gonorrhœal ophthalmia.

IV. Gonorrhœal pus in the acute stage.

It will be observed that pus was selected with some regard to this series; the exact material, as stated by Mr. Bader, was not at hand.

It is to be remembered that the more vascular the cornea, or the more sarcous the pannus, the better the results; so too in these severer cases, pus of a higher septic quality may be used. The chief danger with gonorrhœal pus is not, however, its virulence, but the possible concealment of a venereal sore upon the part from which the pus is taken. Such an accident would be grave in its consequences. It would surely premise a perforating ulcer of the cornea, if it did not entail syphilis.

On this point Mr. George Lawson,† who, with Mr. Bader, has made extensive experiments with cases of granular conjunctivitis and pannus, writes: "It is best that the pus should be always in the first instance taken from the eye of an infant suffering from purulent ophthalmia, as it seems to me that, although gonorrhœal matter may, in extreme cases, answer very well, yet there is always a certain amount of risk as to its purity, whether some syphilitic virus may not accompany it; for, since a chancre in the urethra is occasionally associated with gonorrhœa, it is difficult, if not impossible, to say that the patient from whom the matter is derived is free from it. I prefer, for this reason, always to take it from the child."

Another danger to be feared is the establishment

* Paper read at the semi-annual meeting of the Vermont State Medical Society, June 25, 1881.

* Reports of Royal London Ophthalmic Hospital, vol. iv. p. 30. 1863-65.

† Ibid., p. 183.

of diphtheritic instead of purulent ophthalmia. As diphtheria has special habitats, this danger is more to be feared in certain countries than others. In England and certain portions of our own country, inoculation is rarely followed by diphtheria; whereas in Northern Germany it is of frequent occurrence as a complication of ophthalmia; hence, in Germany the procedure is unpopular; while Graefe would not allow its introduction in his Berlin clinic. Stellwag * accords it the place of an heroic remedy, to be used after other methods have failed; while at the same time he testifies to its successful and surprising results in the treatment of pannus.

The best success has resulted with eyes where the cornea has been very vascular, the pupil and iris being scarcely visible. As was noted above, these eyes may be inoculated with the strongest pus in the series. Mr. Lawson states that such eyes will almost invariably recover, and good useful sight be regained. Another important point is that pus increases in virulence in its travel: so that a third eye will receive stronger pus from the second eye than this received from the first. Of the one hundred and seventy eyes inoculated by Mr. Bader, two corneæ were entirely lost, and ten were perforated by the suppurative process.

Wecker,† of Paris, "though not generally deficient in boldness"—so he writes of himself—has never as yet ventured on this proceeding, whose results could not be foreseen. In the severe cases of vascular pannus he prefers abrasion of the conjunctiva and warm compresses. He asserts, with a touch of vanity, that in his clinique in the Rue du Cherche Midi there are only two to three per cent. of granulation cases, whereas in some of the Paris dispensaries the proportion runs as high as fifteen per cent. It is questionable whether the social standing of patients alone determines the frequency of trachoma. In North Germany, the disease is much more prevalent than in Bavaria, as the author of this paper is personally aware. In certain large Bavarian towns trachoma is a great rarity; so much so, that a story is told of its introduction into Bamberg, a few years ago, by a *conducteur* on one of the South German railways. In England, it is one of the most common eye diseases.

In cases of monocular pannus, inoculation may be questionable. If it be determined on, the sound eye must be firmly sealed with gum-mastic, cotton, and a bandage, or with the watch-glass "blinder," made fast with diachylon plaster and collodion. Great care must be used in changing the dressings and cleansing the eye, and every change should be made as speedily as possible. Buller's shield, a picture of which is seen in Mr. Lawson's book on "Diseases and Injuries of the Eye," is one of the best sealing bandages I know of.

Finally, I desire to impress upon those interested in this method of treatment of cases of pannus that, where the cornea is dry, whitish, or in the condition of confirmed staphyloma, where there is not a well-pronounced vascularity of its superficies, and where also granulations of the conjunctival surfaces are wanting, inoculation will not only be unsatisfactory, but may be dangerous. But, with these latter conditions well exemplified, I should not hesitate to employ this bold means after all other plans of treatment had failed to restore sight.

In addition to the references already made, the author would refer to the following sources of earlier literature on this subject: Piringer: "Blennorrhœa in the Human Eye," Gratz, 1841; v. Roosbroeck: "Cours d'ophthalmologie," vol. i., p. 566; Warlomont: *Annales d'Oculistique*, xxxii., p. 149; Ludwig: *Tubinger Blätter f. Naturwissensch. u. Arzneikunde.* Band. II., H. 2.

35 West Thirty-Eighth Street, New York.

* Stellwag On the Eye, p. 99. 1873.
† Ocular Therapeutics, p. 88. 1880.

## ADENITIS AND ANGIOLEUCITIS OF THE PELVIC CELLULAR TISSUE.

By J. S. CARREAU, M.D.,
NEW YORK.

Dr. Leopold, of Berlin, in 1873, has minutely described the lymphatics of the pelvic cellular tissue. He says that the mucous membrane of the uterus is very extensively supplied with lymphatics, existing in the form of sinuses, separated from each other by the endothelia. These sinuses are connected into the form of infundibula, which create a communication with the lymphatics of the muscular coat. The sinuses exist in the muscles, but as soon as they reach the peritoneum, they lose all appearances of sinuses, and form irregular plexuses on the anterior and posterior parts of the organ. In these plexuses lymphatic ganglia exist, being situated mostly in the broad ligaments and cul-de-sacs.

Cruveilhier, in his "Atlas of General Pathology," has shown some of these ganglia filled with pus, after confinement.

Dr. Courty, in the April number of the *Annales de Gynecologie*, has ably described a disease called peri-uterine adenitis, bringing forward some clinical cases and a few post-mortem examinations of the same.

Countenanced by such high authorities, I presume to report a few cases, which I shall term pelvic-adenitis and angioleucitis.

Mrs. E——, aged thirty-two, married five years, had one child and one miscarriage of three months old. She is of a lymphatic diathesis; has been brought up in luxury; had obstructive dysmenorrhœa since her first menses; was operated upon for anteflexion, and the result was favorable; became pregnant a short time after marriage; had a long labor, the child living, but very weak. From that time up to June, 1879, she has been suffering now and then from local and general symptoms; consequently had been under medical treatment during that period. From June, 1879, to February, 1880, when she again became pregnant, she felt remarkably well. Although her uterus was not yet in a perfect condition during the time she carried the child, she had her menses when they ought to have been suppressed. Up to June, 1880, when she started for the country, the diagnosis of pregnancy was only approximately made from constitutional symptoms. In July she had a three months' miscarriage, from which she apparently speedily recovered. About ten days after the miscarriage she became unable to walk, complaining of pain localized in the lower part of the sacrum and left inguinal region, rectal and vesical tenesmus; in a word, all the symptoms of peri-uterine inflammation were present except high fever. One month after the miscarriage I saw her. Physical exploration was made. Two little nodules were felt in the upper part of the vagina, one in the posterior cul-de-sac, the other toward the left broad ligament, round, immovable; excessively tender to the touch; no tenderness in the parts adjacent to the nodules. The uterus was movable, and the cer-

vix bathed in purulent matter. Sometimes the finger would fail to detect these nodules. The hand placed on the abdomen, in conjoined manipulation, would push them further down in the vagina so as to be felt by the finger. The first thing to be done was to ascertain what it was I had to deal with. Prolapsed ovary was out of the question, for the following reasons: It was not probable that both ovaries would be prolapsed at once; and these nodules were too small to be mistaken for ovaries. A prolapsed ovary is also more movable, unless bound by peri-uterine inflammation. In peri-uterine inflammation the uterus is immovable; the pain is more general; no nodules are felt separated from each other by healthy tissue. As to hæmatocele and tumors, they cannot be mistaken for pelvic adenites. These were the same symptoms she had after confinement; was treated for pelvic-cellulitis; suffered more or less during a period of nearly a year. This time a different diagnosis was made, and accordingly treatment suited to the case was followed. Large, hot-water vaginal injections were given morning and evening; fifty per cent. solutions of carbolic acid were applied to the uterine cavity every second day; mercurial ointment with belladonna constantly kept over the pubes; outdoor exercise every day, but not to the point of fatigue. Besides all this, her constitution was brought to its highest condition by a generous diet, with Burgundy wine, or English ale, and daily sponge-baths, followed by good, coarse towel-rubbing. In October she was entirely recovered; had no pain whatever; her menses normal; appetite, digestion, and sleep good.

Mrs. M——, aged thirty-eight, born in Germany, married ten years, had six miscarriages; one premature child, which died when two months old of syphilitic pemphigus; and another, a full-time child, which is living and well. All these miscarriages ranged from two to four months, the last one three. She contracted the disease from her husband, and her first symptoms were that of papula syphilitica, coming on a few weeks after the first miscarriage. I first saw her when she had her last miscarriage, which was in June, 1878. This miscarriage was followed by the following symptoms: Pain in sacrum and left side, extending down the thigh; fecal evacuation unbearable. All these symptoms were greatly increased when standing or walking. Physical exploration revealed a few small nodules in the upper part of the vagina, as described in the previous case; the uterus was in its proper axis, and not tender to the touch. A small nodule was also felt in the walls of the abdomen one inch below and to the left of the umbilicus, which was movable and very tender; she had also a few papules on the body and extremities. Certain of the diagnosis, I put her under the mixed anti-syphilitic treatment, and, to my great satisfaction, in less than three weeks all these symptoms and growths, which I feared would compel her to keep in bed many weeks, were banished. Having entirely recovered, I lost track of her until February, 1879, when she was seized with her old malady; she was then three months pregnant. She had a single nodule in the walls of the abdomen, although none could be felt in the cul-de-sac; it is true, my explorations were not minutely accurate. Large doses of potass and mercury at once removed all the symptoms. After having discontinued the treatment for many months, she gave birth in July to an eight-months child, which died when two months old. From that time to the present she has followed the usual treatment, and the result was favorable. She had in December, 1880, given birth to a child which is living and strong. She had a perfectly normal labor, with none of the old complications. She had, while under my care, three severe attacks of what might be called peri-uterine inflammation, and each attack was subdued by the mixed treatment and the application of mercurial ointment above the pubes.

Mary Ann ——, aged twenty-seven, single, school teacher, came to me in June, 1879. She had then general adenitis and constitutional dysmenorrhœa. Born of scrofulous parents. Previous to 1878 her menstruations were perfectly normal, but as to her adenitis it had been getting worse and worse for some time past, and especially since 1878, when her menses began to be both painful and scanty. She had been educated in a boarding-school, where she studied very hard, and would spend her hours of recreation at work. She says that her years of school have very much contributed to make her what she is now. On account of the increasing severity of the dysmenorrhœa and of the vesical and rectal-tenesmus, I made a physical exploration and found the uterus in its normal axis; but in the cul-de-sacs small nodules, tender to the touch and immovable, were felt, and also bands of indurated tissue could be mapped by the finger. On account of the general adenitis and of the increased pelvic symptoms, when her constitution was on the decrease, it was natural to infer that I had a case of pelvic-angioleucitis and adenitis. The treatment has been successful. She went into the country, worked like a farm-girl, followed a milk diet, and took daily salt sponge-baths, and, in a word, brought her constitution by general training and constitutional care to its highest point. In September, 1880, came back to New York approximately well. Her menstruations are perfectly normal; all pelvic symptoms are banished; her general adenitis is mostly well, except a few enlarged cervical glands. Her appetite is voracious, and she can digest any kind of food.

I have selected these three cases, and have followed their clinical history very carefully. If they had been treated as simple cases of pelvic-peritonitis or cellulitis no doubt the results would have been very unsatisfactory.

## THE NEW YORK STATUTES FOR REGULATING THE PRACTICE OF PHYSIC AND SURGERY.

By EDWARD B. MERRILL,

ATTORNEY AND COUNSELLOR-AT-LAW, NEW YORK.

The discussion upon the question of what is the legal meaning of chap. 513, Laws of 1880, entitled "An Act to regulate the licensing of physicians and surgeons," passed May 29, 1880, demands further elaboration. The literary and grammatical features of the act have been already justly commented upon. In the present article we will, in as brief space as possible, examine the historical legislation of this State with regard to regulating the practice of medicine and surgery here. These acts are various, beginning as far back as 1760, with regard to medical practice in the city of New York, and coming down to the current year. The acts were originally passed, and, as for that matter, are now, for the protection of the public from the pretensions and fraudulent practices of charlatans, impostors, and quacks. Whether they are the best that can be devised, or even as good as those of an earlier date, and as likely to be effectual as those were; or

whether an act which entirely left out of its purview all connection with informers, and all punishment of a criminal nature, as both being demoralizing and difficult of enforcement; or whether some parts of the old and the new acts could not be combined in another act, and made easier for both the public and the offender, and still perfectly effectual for the purpose desired, are questions which doubtless have been fully considered by the projectors of this act, and deemed impolitic to attempt. At any rate, whatever may be our private opinion, they are foreign to the present occasion.

Legislation of this character is no new thing. As far back as the year 1511-12 an act was passed for the registration of physicians and surgeons in England and Wales, 3 Henry VIII., chap. xi. This act was amended from time to time (seven times only), down to the year 1858, when the present Medical Act of Great Britain and Ireland was passed, 21 and 22 Victoria, chap. xc. This now stands as their present Medical Act (see "The Medical Practitioner's Legal Guide; or, The Laws Relating to the Medical Profession," by Hugh Wightman, Esq., M A., Cantab. London, 1870).

The late Ch. J. Redfield, in a case reported in the "Vermont Reports" (12 Vermont, 146), in speaking of these acts says: "The history of legislation, in regard to apothecaries, surgeons, and physicians, from the date of the statute 14 Henry III., when the subject was first attempted to be regulated by law in England, to the present time, would afford a curious subject of investigation, and might tend in some degree to throw light upon the present question. The College of Physicians was incorporated there as early as 14 Henry VI., with most enormous powers, both of restriction and coercion in relation to all who attempted either of the above named acts. And it still seems to be supposed there that much harm may be prevented by these legislative restrictions."

It is too late now to discuss with any profit, or with any hope of change, the question of the policy of such legislation. That is too well approved by the laws which have been passed, by the decisions of the courts, and by the intelligence of the public. The constitutionality of such laws in their general scope has also been determined by the Supreme Courts of Massachusetts, Nevada, New York, Ohio, and other States.

The first section of the present act divides into three classes those physicians and surgeons who are permitted to practise here, by providing: "1st, a person shall not practise physic or surgery within the State unless he is twenty-one years of age, and either has been heretofore authorized so to do, pursuant to the laws in force at the time of his authorization; or, 2d, is hereafter authorized so to do as prescribed by chapter seven hundred and forty-six of the laws of eighteen hundred and seventy-two; or, 3d, by subsequent sections of this act."

Section 2 provides, among other things, that all three classes shall register, etc.

Let us now examine, as briefly as we may, the legislation in this State upon the subject, with a reference to some of the decisions of the courts under the old statutes now repealed.

The practice of physic and surgery in the city of New York was first regulated June 10, 1760 (vide L. and S., vol. ii., 188; V. S., vol. i., 382), and afterward by an act of March 27, 1792 (vide Gr. vol. ii., 425).

The first act was entitled, "An Act to regulate the practice of Physic and Surgery in the City of New York, Chaps. cxcviii, passed the 10th June, 1760."

The preamble gives in quaint phrase, but with explicit freedom of expression, the reason and philosophy of all the legislation on the subject, and is as follows:

"Whereas many ignorant and unskilful Persons in Physick and Surgery, in order to gain a Subsistence, do take upon themselves to administer Physick and practice Surgery in the City of New York to the endangering of the Lives and Limbs of their Patients; and many poor and ignorant Persons inhabiting the said City, who have been persuaded to become their Patients, have been great Sufferers thereby,

"For preventing such Abuses for the future:

"1. Be it enacted, by his Honour the Lieutenant Governor, the Council, and the General Assembly, and it is hereby enacted by the authority of the same, That from and after the Publication of this Act, no Person whatsoever shall practise as a Physician or Surgeon in the said City of New York, before he shall first have been examined in Physick or Surgery, and approved of and admitted by one of his Majesty's Council, the Judges of the Supreme Court, the King's Attorney General, and the Mayor of the City of New York for the time being, or by any three or more of them, taking to their assistance for such examination, such proper Person or Persons as they in their Discretion shall think fit. And if any Candidate, after due Examination of his Learning and Skill in Physick or Surgery as aforesaid, shall be approved, and admitted to practice as a Physician or Surgeon, or both, the said Examiners, or any three or more of them, shall give, under their hands and seals, to the Person so admitted as aforesaid, a Testimonial of his Examination and Admission in the Form following, to wit:"

Then follows the form of the testimonial.

"Section 2 provides that Persons practising either Faculty, without such Testimonial, to forfeit Five Pounds; Provided, that the Act does not apply to those Persons practising either Faculty before the Publication of this Act, or to any Persons bearing his Majesty's Commission, and Employed in his Service as a Physician or Surgeon."

On March 23, 1797, the first general regulation throughout the State was adopted, authorizing the Chancellor, a judge of the Supreme Court or Common Pleas, or a Master in Chancery, to license physicians and surgeons on receiving evidence of their having studied two years, etc., and the act of March, 27, 1792, was thereby repealed (vide Gr., vol. iii., 417, 419).

This act of March 23, 1797 was revised, and with some alterations passed April 4, 1801 (vide K. & R., vol. i., 449).

It was further amended in one of its provisions March 22, 1803 (vide W., vol. iii., 334).

On April 4, 1806, an act was passed establishing medical societies in the State, and a general State Medical Society, and repealing the former act (vide W., vol. iv., 537). This act, with its subsequent amendments, has been adopted in the present revised act (note to chap. xciv., 2 R. L., 219; Van Ness & W.. Rev. of 1813).

2 R. L., 219, was amended by laws of 1818, ch. ccvi., p. 192. In this act censors are appointed by the county medical societies to examine students, etc., and also in act of 1818.

One of the earliest decisions under this act was by the Supreme Court in 1817, entitled Timmerman v.

Morrison, 14 Johns. R., 369. This was an action brought in a justice's court to recover for medicines sold to, and for attendance upon, defendant's family in sickness. The Court says: "The justice erred in his construction of the statute *for regulating* the practice of physic and surgery" (2 R. L., 219). "The twelfth section of that act forbids any person to practise physic or surgery without a diploma, and declares that 'if any person shall so practice without a diploma, he shall forever thereafter be disqualified from collecting any debt incurred by such practice in any Court in this State.' The twentieth section superadds a penalty of twenty-five dollars for practising without a regular license, with a *proviso* that 'no person shall be subject to such penalty who practices without fee or reward;' and with the further *proviso* that 'nothing in this act contained shall be construed to extend to debar any person from using or applying for the benefit of any sick person, any roots, bark, or herbs, the growth or produce of the United States.' The true construction of all these sections and provisos, taken together, is that no person *commencing* to practise without a licence, after the date of the act, shall be capable of suing for services rendered, or medicines furnished as a physician or surgeon; and that every person so practising without licence is subject to the penalty of twenty-five dollars, unless he proves that he practised gratuitously, or that he administered only roots, bark, or herbs, *the growth or produce of the United States.*"

Another case arose in October, 1828, and is reported as Allcott *v.* Barber (1 Wend., 526).

Barber sued Allcott in a justice's court for botanical medicines furnished for his daughter at three different times in the year 1824, amounting to eighteen dollars. Allcott pleaded, generally, that he didn't owe him anything, and specially: 1st, that Barber was not a licensed physician; 2d, that Barber did not use for the benefit of Allcott any roots, etc., the growth or produce of the United States; and 3d, that Barber's services and medicines were useless, etc. Upon the trial it appeared that a daughter of Allcott was ill of a complaint which had baffled the skill of her attending physician; that Barber was sent for to come from Auburn, where he resided, to Rochester, a distance of seventy miles; that he visited the patient three times, in the summer, in the fall, and at an intermediate time; that he left to be used by the patient, two phials of medicine and a box of ointment; that the patient was recovered, or nearly so, by the use of the medicine. What the medicine was the witness did not know.

It was proved by Allcott, the defendant, that the plaintiff, Barber, went about the country administering medicines and prescribing for diseases, and was not a licensed physician.

The Court, Savage, Ch. J., says: "This case seems to be an attempt to evade the statute which prohibits a recovery by a medical practitioner who is not regularly licensed. . . . . Where the same person officiates as physician and apothecary he comes within the decision of this court, that an unlicensed practitioner is incapable of suing for services rendered, or medicines furnished, as a physician. As the patient was cured, it is to be regretted that Barber was not paid; but if unlicensed pretenders to skill in diseases can recover, as in this case, the statute may become a dead letter; the country will be filled with mere quacks, peddling their nostrums, and deceiving and destroying the ignorant and credulous—the very mischief which the statute is intended to prevent. I do not say that the defendant in error is a mere pretender, for he cured his patient, and in honor and honesty should have been paid; but it is our duty to administer the law," etc.

Another case arose in 1840, entitled McPherson *v.* Cheadell (24 Wend., 15, 1840). In this case, Dr. Elijah Cheadell sued McPherson, in 1837, for services rendered as a physician, and for medicines furnished from 1803 to 1836. The defendant pleaded the *general issue*, and the *statute of limitations*. The case was heard by referees, and afterward the record was brought to the Supreme Court for review.

In the opinion of the court, by Judge Cowen, the effect of the several acts of the Legislature regulating the practice of physic and surgery upon the rights of physicians is considered and commented on. We give only such extracts from the opinion as relate to our general topic, p. 24: "In the first place, I doubt much whether the defendant below, after retaining the plaintiff as a physician, and accepting his services as such, could call upon him in the first instance to prove a regular *license*. In other like cases the presumption is against the defendant. It is so between attorney and client in a suit for services performed under a retainer. There, if the objection sound in the fact that the plaintiff was never admitted, or that his admission has become inoperative, it lies with the defendant to show it. Besides, the contrary would be doing great violence to the presumption that no man will transgress the command of a positive law.

"The plaintiff had practised some forty years, at least, and for much of this period there was a penalty collectible from any one who practised without a license, and such an act was for the whole period contrary to the statute. He could not collect the wages of his practice. . . . .

"But if the plaintiff be put to the strictest proof, how will he then stand? He produced a regular license under the Act of March 23, 1797 (3 Greenlf., 417, § 1). That act required him to produce satisfactory evidence to some judge of the Common Pleas of this State, or other officer mentioned, that he had practised physic, or surgery, or both, for the term of two years previous to October 1, 1797, or satisfactory evidence that he had studied, etc. It also required him to obtain a certificate of such satisfactory evidence from the officer, under his hand and seal, file it with the clerk of the county where he resided, and take a certified copy, subscribed by the clerk, or otherwise he incurred a penalty of $25 for every act of professional practice.

"Proof was offered by an unofficial certificate that the doctor was a member of the county society formed in 1806, under the statute of that year (chap. 138, § 1, revised and re-enacted 2 R. L. 1813, p. 219—see note there). In 1818, Sess. 8 of that year, chap 206, the Act of 1813 was amended, and, among other things, every practitioner of medicine was required to attach himself to the medical society of his county by lodging his certificate with the president (§ 7). What consequences should follow the omission is not declared. The certificates were disregarded by the referees, and parole evidence was received of his having been a member of the county society for a number of years. The court says: 'But this veteran practitioner having, as he believed, fought his way through the adverse legislation of nearly half a century, it is thought must, at all events, surrender a part of his claim under the new and point-blank provision which found its way among

the numerous alterations introduced into the revision of 1830 (1 R. S., 450, 2d ed., § 16). This section provides that no person shall practise physic or surgery unless he shall have received a license or diploma for that purpose from one of the incorporated medical societies in this State, or the degree of Doctor of Medicine, etc., or shall have been duly authorized in a certain form under the laws of some other State or country. The doctor produced no license or diploma from any society. His certificates, it was objected, were neither of them technically such, and if a license was necessary, he could only resort to the certificate of 1797. This latter was substantially according to the law of that day, and conferred a right which continued for life, unless divested by some disfranchising statute. The provision in the Revised Statutes is general. It prohibits *all persons* practising unless they have the license required. It is not in terms confined to persons taking licenses after 1806, when, for the first time, medical corporations could be formed; nor does it expressly say it means not to touch those who were previously licensed. There are classes to whom it may be equitably applied, probably most persons now in practice, for the granting of corporate licenses or diplomas commenced so early as 1806 (vide Sess. L. of that year, chap. 138, § 4), and was continued in the subsequent acts (vide 2 R. L. of 1813, 221, § 9 and § 21). To these latter persons, according to the same rules of construction, it should be confined; and we think might be, if necessary. The statute can have ample scope without working injustice to any one. Dash *v.* Van Kleeck (7 Johns, 477), and the cases there cited, will be found full to the point that it should be so construed as not to interfere with previously vested rights.

"Timmerman *v.* Morrison (14 Johns, 369), is directly in point on a similar general provision in the Medical Act of 1813 (2 R. L., 219–222, § 12). But if it were necessary for the doctor to renew his license, *non constat* that it was not done.

"Such a defect would reach but to the latter part of his practice in the defendant's family. He had been retained long before 1830, and continued to practise generally after that time. The presumption is, therefore, that he had obtained the proper diploma under the Revised Statutes, in other words, renewed his license." . . . .

The doctor recovered his fees.

In 1841 a case was decided in the Supreme Court (Finch *v.* Gridley's Executor, 25 Wend., 469), which held that "a physician may maintain an action for medical attendance rendered by him, although he has neglected to deposit a copy of his license in the clerk's office of the county of which he is a resident." In this case the plaintiff claimed $230 for his attendance as a physician upon the testator.

On the hearing he produced a paper purporting to be a certificate granted by the president of the Medical Society of Columbia County, certifying that he, the physician, had been regularly admitted a member of such society. It bore the date of June 6, 1837, and purported to be signed by R. Van Beuren, President. It was proved that R. Van Beuren was addressed as president of the County Medical Society, and that his name appeared in publications as such officer, and that the signature to the certificate was in his handwriting. The plaintiff also produced a diploma, granted by *the Medical Society of the County of Herkimer, at Fairfield*, under the seal of that institution, signed by the president and secretary, bearing date January 14, 1835, conferring upon the plaintiff the privilege of practising physic and surgery in this State, etc.

The defendants proved that the plaintiff had *not deposited* a copy of his license in the clerk's office of the county of Columbia. After hearing the evidence of the parties in relation to the medical attendance of the plaintiff, the referees, before whom the case was heard, made a report in favor of the plaintiff for $116, which the defendants moved to set aside.

The counsel for the defendants insisted "that the evidence was insufficient to show that the plaintiff was duly licensed to practise physic, and *that, at all events, having neglected to deposit a copy of his license in the clerk's office of the county in which he resided, he was not entitled to recover.* The act concerning the practice of physic, in section nineteen, declares that until such license is so deposited the physician *shall be liable to all the penalties* provided by law, in the same manner as if he had no license. It cannot be that a party can maintain an action for services rendered for another, when such services, by the imposition of a penalty, are manifestly deemed by the legislature illegal."

By the Court, Nelson, Ch. J.—"The first section of the Act regulating the practice of physic and surgery (1 R. S., 448) provides that the president of every county medical society shall give notice to every physician and surgeon, not already admitted into such society within the county, requiring him within sixty days to apply for and receive a certificate of admission as a member. Section second declares a forfeiture of the license of the physician or surgeon not complying with such notice. The sixteenth section forbids the practice of physic or surgery by any person, unless a license or diploma for that purpose has been obtained from one of the incorporated medical societies in this State, or the degree of Doctor of Medicine from the regents of the University, etc. The nineteenth section requires the physician to deposit a copy of his license with the clerk of the county where he resides; and in default thereof, he is declared liable to all the penalties provided by law, in the same manner as if he had no license. The twenty-fourth section disables every person not authorized by law to practise physic or surgery, from collecting any fee by suit, and the twenty-fifth section subjects him to a penalty of $25, for each offence.

There was sufficient proof of the granting of the certificate of membership of the County Medical Society of Columbia, which was, at least, *prima facie* evidence of authority to practise. The first section of the act requires all physicians and surgeons within the county to apply for such certificate; and it is but reasonable to presume it would not have been granted unless the party was deemed properly qualified to practise. The second section confirms this view; for the physician forfeits his license, and subjects himself to all the disabilities of the statute, if he fails to procure such admission. I am also inclined to think the evidence which was given competent to prove the *diploma* from the college at Fairfield. . . . Then, was the *deposit of a copy of the license* in the county clerk's office an essential prerequisite? I think not. The nineteenth section makes the physician 'liable to all *penalties* provided by law,' in case of default. It is insisted that penalties here include the disability to sue for fees under the twenty-fourth section, as well as the forfeiture of the $25 under the twenty-fifth section. The provision, being penal, should be strictly construed and limited to its technical common law

meaning. That is fully accorded by restraining it to the forfeiture in the latter section. This view is confirmed by a reference to the language of the seventeenth section, which requires the physician coming from abroad, in terms, to file a copy of his diploma before he is entitled to practise. It is fair to presume similar language would have been used in respect to our own diplomas had the legislature intended to apply a like rule. They, doubtless, regarded the penalty of $25 for each offence sufficient punishment for the neglect."

Motion to set aside referees' report denied.

An appeal case was heard at the October term of the Superior Court of the City of New York, 1829, which is reported under the name of Elisha Smith *v.* William Tracy (2 Hall's R., 465). The head-note is as follows: "The plaintiff brought an action of assumpsit for work and labor bestowed by him as a physician, surgeon, and apothecary, on the defendant's wife, and for the medicines found and applied by him in the course of his attendance as such physician. It appeared at the trial that the plaintiff had no license authorizing him to practise, but was employed by the defendant to attend upon his wife, and in the course of such attendance furnished a quantity of medicines, for the preparing of which he had obtained a *patent;* and he sought in this action to recover a compensation for his services as a physician, and also for his medicines. Held, that he was not entitled to recover any part of his claim, not even for the patent medicines furnished in the course of his attendance."

It appeared in evidence at the trial, that the plaintiff had *no license* authorizing him to practise as a physician, but he was employed by the defendant to attend his wife, and in the course of such attendance furnished a quantity of medicines, for the preparing of which he had obtained a patent; and he sought in this action to recover a compensation for his services as a physician, and also for his medicines. The recovery was resisted on the ground that the statute disabled the plaintiff from maintaining the action. The plaintiff, it appeared, was a practitioner in "*botanic medicines*," and he attended the defendant's wife thrice every two days, from October, 1828, to April thereafter. Her complaint was a cancer, and the bill of particulars showed a list of medicines amounting to $75, and visits to the amount of $150. No cure was effected, a regular surgeon having been called in before "the work was completed."

At the trial, the plaintiff was nonsuited upon his own evidence.

The opinion of the court was given by Oakley, J. (after a statement of the facts of the case). "By the twelfth section of the Act Regulating the Practice of Physic and Surgery (2 R. L., 222), it was provided that if any person shall practise physic or surgery without a license, 'he shall forever thereafter be disqualified from collecting any debt or debts incurred by such practice, in any court of the State.' By the new revised code, which was in force at the time the plaintiff rendered the services in question (1 R.S., 455, § 22), it is enacted that every person '*not authorized by law*, who for any fee or reward shall practise physic or surgery within the State, shall be incapable of recovering by suit *any debt arising from such practice.*' The provisions of both acts, in this respect, are similar in effect, and undoubtedly must receive the same construction.

"In the case of Timmerman *v.* Morrison (14 J. R., 370), the Supreme Court held that, by the true construction of the former act, no person practising without a license could recover for *services rendered or medicines furnished* as a physician or surgeon.

"In Allcott *v.* Barber (1 Wend., 526), the action was for *medicines furnished.* The plaintiff in that case, being an unlicensed physician, was employed to attend the defendant's daughter, *and, in the course of such attendance, furnished a quantity of medicine.* The Court of Common Pleas, in which the action was tried, directed the jury that the plaintiff had a right to recover for the value of the medicine furnished; and the Supreme Court held that direction to be erroneous. The Chief Justice says that '*where the same person officiates as physician and apothecary*, he comes within the decision of *Timmerman v. Morrison;*' and he says that, 'if it were otherwise, the country would be filled with quacks and pretenders, *peddling their nostrums*, and deceiving and destroying the ignorant and the credulous—the very mischief which the statute is intended to prevent.'

"I cannot distinguish the case now before us from Allcott *v.* Barber. The plaintiff acted in the joint capacity of physician and apothecary. The medicines charged by him were used and applied in the course of his attendance and prescriptions as a physician. The case comes entirely within the principle of that decided by the Supreme Court, and must be controlled by it.

"It is contended by the plaintiff, that the patent in evidence in the case gives him the right to sell the medicines in question, notwithstanding the provisions of the State law; and his general right to sell his medicines as an apothecary is not questioned in this case. The patent confers no additional right on him, but precludes others from selling or using them. The State law, by the construction given to it by the Supreme Court, prohibits him from '*peddling his nostrums*' in the character of a physician, and inducing people to buy and use them in consequence of their reliance on his pretended skill. Such practices the law of the State has declared to be dangerous to the public health, and if the patent in question had authorized him, in express terms, to vend his medicines in the manner in which he has done it in this case, I should have no hesitation in holding that the patent would be inoperative against the provisions of the law. It is not necessary, however, to enter further into this view of the case.

"The plaintiff also contends that the knowledge of the defendant that the plaintiff was an unlicensed physician is a feature in this case, which distinguishes it from those decided by the Supreme Court. I cannot so consider it. That knowledge, no doubt, existed in the case of Allcott *v.* Barber, and exists also in the great majority of cases in which unlicensed physicians are employed. The mischief intended to be prevented by the statute is injury to the 'ignorant and credulous,' and the protection of the statute to that class of people would be in a great measure defeated if a circumstance of such common occurrence were permitted to take the case out of its operation. The motion to set aside the nonsuit must be denied."*

These references and quotations embrace all the adjudicated cases by the higher courts of the state

* This "practitioner" professed to cure "most diseases incident to humanity," among which were enumerated gout, gravel, asthma, syphilis, stone, dropsy, ulcers, salt rheum, *affections of the nerves, palpitation of the heart*, St. Anthony's fire, tetters, scald heads, *consumptions*, and *all* diseases arising from *impurity of the blood.* One of his recipes for a "*tincture*" in the above complaints was as follows: "Take one gallon of cider, half a pound of horse-reddish (sic) root, a quarter of a pound of white-oak bark, and two ounces of oxyd of iron. Let the mixture stand six days, stirring it twice every twelve hours, *and it will be fit for use.*"—REPORTER.

down to the passage of the Act of 1844, entitled "An Act in relation to the Practice of Physic and Surgery," passed May 6, 1844 (Laws 1844, chap. 275, p. 406).

The following is the text of the act in full, as well as of the Act of April 7, 1830, which it expressly repeals:

SECTION 1.—The twenty-second section of chapter fourteen, title seven, part first of the Revised Statutes, and all laws of this State which prohibit any person from recovering, by suit or action, any debt or demand arising from the practice of physic or surgery, or a compensation for services rendered in attending the sick, or in prescribing for the sick, are hereby repealed

SECTION 2.—The act entitled "An Act concerning the Practice of Physic and Surgery in this State," passed April 7, 1830, is hereby repealed.

(This act was as follows: Chap. 126, Laws 1830; "An Act concerning the Practice of Physic and Surgery.

"SECTION 1.—All that part of section twenty-second of title seventh of chapter fourteenth of the first part of the Revised Statutes, after the words 'such practice,' at the end of the third line, be and the same is hereby repealed.

"SECTION 2.—Every person not authorized by law who shall practise physic or surgery within this State, shall, for each offence of which he may be duly convicted, forfeit and pay a sum not exceeding twenty-five dollars, to be recovered, with costs of suit, before any justice of the peace of the county where such penalty shall be incurred, by any person who will prosecute for the same, 'and the same shall be paid over for the benefit of the poor. But the provisions of this section shall not be deemed and taken to extend to or debar any person from using or applying, for the benefit of any sick person, any roots, barks, or herbs, the growth or produce of the United States.'")

SECTION 3.—No person shall be liable to any criminal prosecution, or to indictment, for practising physic and surgery without license, except in cases of malpractice, or gross ignorance, or immoral conduct in such practice.

SECTION 4.—All and every person, not being a licensed physician, who shall practise or attempt to practise physic or surgery, or who shall prescribe for or administer medicines or specifics to or for the sick, shall be liable for damages, in cases of malpractice, as if such person ware duly licensed to practise physic or surgery.

SECTION 5.—Any person, not being a licensed physician, who shall practise or profess to practise physic or surgery, or shall prescribe medicines or specifics for the sick, and shall, in any court having cognizance thereof, be convicted of gross ignorance, malpractice, or immoral conduct, shall be deemed guilty of a misdemeanor, and liable to a fine of not less than fifty dollars, nor not exceeding one thousand dollars, or imprisonment in the county jail not less than one month, nor exceeding twelve months, or both, in the discretion of the court.

We have given the whole text of this act, known in the books and decisions as the Act of 1844, to gratify a legitimate curiosity to read the law, which, it has been held, did away with all distinctions in this State between the different schools of medicine, and which is commented upon with vigor in two or three opinions which we shall refer to and quote from.

The first reported case is that entitled Bailey *v.* Mugg (4 Denio's R., 60, January, 1847), in which we give all of the opinion of the Supreme Court which has a bearing upon the question under consideration.

By the Court, Beardsley, J.—"This action was brought in 1845 to recover a compensation for medical attendance and medicines furnished and administered by the plaintiff, as a *botanic* physician, in 1840. The *plaintiff was not licensed to practise medicine*, and the only question is whether such an action could be sustained.

(To be continued.)

## Progress of Medical Science.

TRANCE AND TRANCOIDAL STATES IN THE LOWER ANIMALS.—These peculiar phenomena form the basis of an article by Dr. George M. Beard in the *Journal of Comparative Medicine and Surgery*, April, 1881, and the following are his summaries: Trance is a concentration of the nervous activity in some one direction. It is a state of degrees and gradations all the way from full trance, in which there is absolute suspension of the nervous activity in every direction except one, and a corresponding concentration of activity in an exceedingly narrow and limited phase, as in apparent death and long-continued rigidity, and so-called trance-coma, to the mildest and most transient dazing and bewilderment. Trance, as it exists in lower animals, whether quadrupeds, fish, or insects, or in forms of life in which the nervous system exists, is the same condition precisely as trance in human beings, and is explained by the same theory. Through the whole range of phenomena, it is obedient to the same natural law, which is now no longer mysterious. It is explained as satisfactorily as any of the great laws of nature, certainly as any in the domain of biology. The state of trance has indeed in many aspects, already obtained the predictable stage—the last and best test of the organization of any science, where we can tell beforehand what will happen with certainty in many instances.

The only difference between the milder trancoidal states, so often observed in animals and in men, as in cases of intellectual absent-mindedness and the temporary loss of presence of mind, and the full trance, in which the animal or person is absolutely unconscious for minutes or hours, or days, or sometimes years is a difference of degree rather than of kind, and there can be no scientific study of the subject which fails to recognize this fact. These trancoidal states bear much the same relation to full trance that epileptiform and neurasthenic or neurasthenoidal states, or insanoidal states bear to epilepsy or neurasthenia or insanity.

The methods or processes of inducing trance and trancoidal states in the lower animals and in man are infinite, and there is no one of these methods that are best known which can be said to have any special or pre-eminent virtue over the other, except of convenience and degree. The philosophy in all these processes and manœuvres is to so alter the nervous equilibrium as to produce concentration of the nervous forces in some one direction, with corresponding cessation of nervous activity in other directions, and this can be accomplished by acting on the nerves of general sensation or of special sense, with profound excitation of emotion of fear and induction of physical helplessness, as when a horse is cast on

his side so that it is impossible for him to rise, or a hen is securely tied by the feet, while at the same time the emotions of fear are energetically acted upon, and the nerves of sensation are effected by manipulation, or by fixing the look on the eyes. The simple excitation of the emotion of fear is itself, without any physical accessories, the most powerful of any single exciting cause, in animals or in men. When, for example, a horse is in a stable that has caught fire, he is often unable to move; he is then in a condition of trance, and the paralysis of motion which subjects him to the danger of burning to death rather than escape, is one of the symptoms of the trance thus induced. The temporary paralysis of a horse unable to cross a track or move in any direction when a train of cars is approaching, illustrates the same principle. Human beings when surprised, in the same way, as when an alarm of fire takes place in a crowded building, are likewise entranced, and exhibit the same phenomena. Of the special senses, that of sight is decidedly the best to act upon, in order to induce the trance or trancoidal state. All the other senses may be similarly utilized; as the hearing, when the animal listens to music, or to any monotonous sound, or the falling of water, even the ticking of a clock or watch; the sense of smell, as when some powerful and agreeable odor is brought near to the nostrils. All these experiments apply with equal force to the higher as well as to the lower animals.

THE STORM-WATER QUESTION IN RELATION TO SEWERAGE.—The bearing of this question at the present time upon the sanitary condition of our towns and villages, is now meeting general consideration.

In discussing this subject in the *Sanitary Journal*, March 1, 1881, Col. George E. Waring suggests that, after proper provisions have been made for the drainage of the subsoil, our only care with regard to the rainfall should be to provide means by which it shall escape, without material inconvenience to traffic; that in so doing it shall wash the street gutters, and without causing material damage to property. There is nothing in the nature of the rain-water that makes its temporary sojourn on the surface of the ground injurious to health, therefore there is no reason why it may not be allowed to wash the face of the streets, and course along the gutters, provided only its volume is not so great as to interrupt or seriously to interfere with traffic, as already mentioned. Consequently, as the roadside gutters are in full view, and may easily be kept clean and in repair, there is no reason why the rain-water may not flow through them for, at least, so far as they are ample to provide for its escape. Sooner or later, however, in large cities, the water from copious rains will exceed its bounds and submerge the streets, or possibly the sidewalks, hence, a possible danger to the pavement, that cellars will be filled, and travel interrupted. Then, but not until then, it will become necessary to carry the flow below the surface of the street, and lead it to a safe point of outlet. Storm-water, therefore, may properly be kept on the surface of the streets as long as possible, and when its accumulations must necessarily be carried beneath the surface, they should be only at such depths as are requisite to get them out of the way, and to prevent their filling with ice during the slight flow in cold weather. In Camden Town, and Kentish Town, the new sewerage system is deluging the poor inhabitants. Taken from the surface of the streets where it would have done good sanitary service in flushing the gutters, the rain-water has been delivered into sewers, which carry it with great velocity, causing an accumulation at lower levels where the pumps have not capacity to remove it. The evil has therefore merely been transferred to the lower-lying areas, where, but for the sewers, the water would, at least, have arrived so gradually as to have done a minimal harm. Mr. Waring designates the present manner of disposing of storm-water in several towns, by removing it from the surface, where it is needed, to the sewers, where it creates a nuisance, as a "relic of barbarism," and its continuance indicates an "overriding of reason by tradition."

A NEW AND CONVERTIBLE SURGICAL APPARATUS.—Dr. John Cousins has introduced to the notice of the profession a very simple and convenient apparatus, which can be used for a great number of surgical purposes by making slight alterations in its component parts. A special feature consists in the application of lever action over the bed without weight or contact with the bed itself. By a mechanical contrivance of great simplicity, a lever is sustained immovably in any position, and by this means many of the ordinary surgical instruments, including the fracture-swing, the bed-cradle, the extension-pulley, the bath-hoop, the splint-elevator, and bed-rest, are reduced to the form of one efficient, portable, and economical apparatus. The following is a short description of some of the principal applications (*Lancet*, April 23, 1881): The fracture-swing is supported by two uprights, which are secured to the sides of the bedstead. It can be used with any kind of ordinary splint, and it supports the limb at any required height; at the same time, it can be used to swing both legs, if necessary, without any addition to the apparatus. Besides, it occupies no space in bed, permits a free circulation of air under the bedclothes, and does not require to be removed in dressing the limb. The apparatus is also convertible, by a very simple arrangement of wooden rods, into an elevator of the entire bedclothes, which will be found of great service in the application of hot-air and vapor baths. Special iron-wire splints, fitted with shifting-bars and movable hand- and foot-pieces, form a part of the apparatus, and, by means of a sliding metal rest, they can be adjusted on the cross-bar at any convenient height. This apparatus is claimed to have advantages over any now in use.

PROGRESSIVE PAINFUL INFLAMMATION OF ARTERIES.—At a meeting of the Clinical Society of London, Mr. Morgan presented a patient aged forty six years who had contracted syphilis at eighteen. Five years previously he began to suffer from pain in the left armpit, then in the bend of elbow. Afterward he had a similar attack, for which there seemed no evident cause. One year ago the difficulty recurred in the right groin; it was deep-seated and was painful when the part was pressed. The area of pain was confined to two or three inches in the course of the femoral artery, and to one or two inches on either side of it. This pain gradually travelled down along the course of the artery to the popliteal space, being traceable throughout, but most severe where it merged into the popliteal. In course of time the pain extended into the leg, and here some limited œdema corresponded to the area of its presence. Similar symptoms originated in the right axilla, and passed gradually down in the course of the brachial artery into the forearm, and here again a limited œdema occurred. He was treated with iodide of

potassium, alkalies, and biniodide of mercury, at various times, and in varying quantities, but without material effect upon the disease. Subsequently, the right carotid artery was affected in a similar way. The symptoms pointed evidently to disease of an artery, probably inflammation of the fibrous coat, since the pain passed from the centre to the periphery, was in the various arteries, and was made intense directly the finger perceived the pulsation of the artery beneath it. There was no history of gout. At no time was there any indication of plugging or impeded blood-flow in the affected arteries. Unfortunately, no sphygmographic tracings were taken. —*Lancet*, April 23, 1881.

On the Treatment of Uterine Myomata.—Lawson Tait's experience in the treatment of uterine myomata, has convinced him that ergot has not a decided influence in restraining the hemorrhage. He has tried it in all its forms, combined with bromide of potassium, various astringent acids, and other drugs recommended by various authors, but without in a single case realizing permanent benefit from it. The hemorrhage from this class of tumors, he says, does not cease in a large number of cases at the ordinary climacteric period, as is generally supposed; but, on the contrary, the presence of the tumor seems to be the cause of a prolongation of the menstrual activity for a period as great as ten years after the ordinary climacteric age has been reached, and not only is this hemorrhage frequently fatal, but it is productive of a condition of ill-health and chronic anæmia from which the patients do not recover, even after the menopause has been reached. For such cases, therefore, surgical interference is demanded, and it depends entirely upon the results of empirical experience what shall be proven to be the best. Concerning the operation of enucleation, he believes it to be a most unscientific and altogether unjustifiable operation, the risks are so great, and the results, even of a successful operation, so disappointing, that, in his opinion, it is not a profitable proceeding. He will never undertake it again. The objection to the removal of these tumors by abdominal section is, that in a very large number of cases the tumors cannot be removed, being so related to the uterine structure as to afford no pedicle. In two such cases he attempted enucleation from the abdomen, but had to desist, and both patients died. In cases where there was such a pedicle as enabled him to remove the tumor and deal with the pedicle, by clamp or ligature, he has operated six times, with only two recoveries, and these were cases where the wire clamp was used. The recoveries were protracted, occasioning profound anxiety; and though in the end satisfactory, presented nothing of the easy, uninterrupted, and rapid course which was the case in all his ovariotomies. Of the cases where he dealt with the pedicle by ligature—three in number—not one recovered. They all died of continuous oozing from the stump. He therefore concludes that hysterotomy is not advisable. Ovariotomy he considers the best method of procedure, having had success that was most gratifying. Since his first operation (August, 1872) he has performed ovariotomy ten times for menorrhagia due to uterine myoma, with one death. In order to illustrate how useless other treatments are in dealing with these cases, he recites the history of the following case in the *Annals of Anatomy and Surgery*, June, 1881. The lady in question, when forty-seven years of age, began to lose most profusely at her periods, and rapidly became extremely anæmic. The loss was ascribed to natural changes and nothing active was done. One year afterward a tumor was detected, and after putting her through all kinds of treatment, injecting ergotin hypodermically, and strong astringents into the uterus, with but temporary benefit, the cervix was divided, which for the time being seemed to abate the loss to some extent; but subsequently, at the age of fifty-two, ovariotomy was resorted to, from which operation the patient made a good recovery. In seven other cases the results have been as good, so far as time has allowed. In the ninth, death occurred, seven months after the operation, from cancer. The hemorrhage was completely arrested for three months. Besides these cases, he has operated in two others for menorrhagia with perfect success.

The method of the performance of the operation he describes as being very simple. The smallest possible incision is made, often barely two inches, and search is then made with the left fore and middle fingers for one ovary after the other. He does not remove one until he is satisfied that he can remove both. The mesovarium is then transfixed with a hooked needle and a loop of silk is carried through. It is then tied by his special knot, termed the "Staffordshire Knot," and the ovaries are cut off with scissors or knife and the wound is then closed. In one case he had to make a ten-inch incision and pull a very large tumor right out of the abdomen before he could find the ovaries, which were down behind it. He had a great deal of difficulty in forcing the tumor back into the abdomen, but the patient made an uninterrupted recovery, and the tumor is now, two months since the operation, less than it was at the time by at least one-third, and the hemorrhage has not recurred.

Suppurative Pyeophlebitis in a Child.—At a meeting of the Paris Anatomical Society, Chauffard reported the case a child, twelve and a half years of age, that had died in a children's hospital. The disease had begun seven weeks before admission with symptoms of fever, vomiting, diarrhœa, and abdominal tenderness. Shortly after cessation of the febrile movement, intense epigastric pain set in, ascites, and œdema of the legs; rapid emaciation also developed, and the child died in extreme cachexia. Albumen had not been detected in the urine. At the autopsy, the abdominal cavity was found filled with about three quarts of a yellow, serous fluid. The peritoneum, although hyperæmic, showed no adhesions. There was some swelling and pigmentation of Peyer's patches, and the spleen was enlarged. The trunk of the vena porta was filled with thick pus, but showed no thrombosis. In the thickened intima wrinkles were numerous, and fibrinous deposits likewise. Both mesenteric veins were similarly involved, whereas the splenic vein contained only coagulated blood.

It was ascertained that the disease of the portal vein extended into the substance of the liver up to the finest ramifications of that vessel. Minute perivascular abscesses were also discovered. The interlobular vessels were found transformed into channels consisting of embryonal corpuscles, and the adjoining liver-cells were pushed asunder by proliferation of these bodies. This, together with the pressure resulting from the distention of the intralobular veins, had caused atrophic changes in the hepatic parenchyma. The cause of the malady was not discovered.—*Le Progrès M'd.: Jahrb. für Kinderheilk.*, December 23, 1880.

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## ALUMNI ASSOCIATIONS.

It is an evidence of progress in the right direction that alumni associations are being organized all over the country, and that a becoming interest is being manifested in the increase of their membership and the extension of their usefulness. While we should be encouraged at this state of things, there are many offsets against the real utility of these organizations which it is well at times to consider. As social gatherings they may be considered eminently successful. The annual dinner generally brings together a goodly company, and with the unexceptionable menu is invariably associated the usual intellectual treat of brilliant post-prandial oratory. On such occasions a great deal is said complimentary to "our alma mater," her past history and her glorious future, and all present unite in believing that they are fortunate in being the children of such a mother. Beyond this little is usually done save the election of officers for the ensuing year, and the provisions for reimbursing the treasury.

It is true that some steps have been taken toward improving the condition of the various colleges, but that such have fallen far short of what was at first anticipated as possible must be readily admitted. In a few instances attempts have been made to endow certain chairs, and although these have been partially successful, it only affords a proof of how much more must be done in the same direction before the associations can exert their proper influences for good upon their respective alma mater.

It seems quite evident that one of the reasons why more progress is not made in the direction indicated, is a want of agreement between the faculties of the college and the members of the association as to what is really required to advance the interests of all concerned. The colleges are willing to receive all that is given to them in the shape of suggestions and endowments, but do not appear to show a disposition to concede anything in return. Although a right of representation on the part of the alumni is allowed in the governing element of some of the schools, it is practically of no account in carrying out any given plan for improvement, or even in influencing any action in such a direction. The representation is allowed merely by courtesy, and is limited to one or at most two members of the association. These change from year to year by election, and give no opportunity for any continuous advocacy for reform, which is so necessary to the desired end.

As a further hindrance to the good purposes of alumni associations must be mentioned the fact that, in a few instances at least, these organizations are more or less under the control of the faculties. In other words, the associations are becoming subjected to college cliques, are being managed accordingly, and are consequently losing their representative character.

One reason, perhaps, for this is the want of interest among the large majority of the alumni in the government of their association, and in the too ready acceptance of a foregone conclusion that none but men more or less directly connected with the college are eligible for office. Although the interests of the alumni and of the faculty must not be antagonistic if any real improvement is to be made in our medical colleges, there should be at least a sufficient balance of power and influence on the side of the former to give it a becoming show. There is no doubt that the alumni associations have a great deal of power if they will arise to their opportunities and appreciate the full force of professional opinion in favor of the reforms they have attempted to effect. And we have a full and abiding faith that the time is fast approaching when the proper influence will be exerted on the one hand and appreciated on the other. In the mean time let the members who are active in their organizations take courage and remove any dead weights that may be hindering the slow but sure progress of the necessary reforms in our present system of medical education.

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### LEUCOCYTHÆMIA IN MAN AND THE DOMESTIC ANIMALS.

M. Nocard, Professor in the Veterinary School at Alfort, has made some investigations into leucocythæmia as it occurs in the lower animals and in man. His studies, presented in the form of a monograph of eighty pages, cover the whole subject of the disease, and contain much that is of interest.

Leucocythæmia in the domestic animals was observed soon after the disease was discovered in man. It has a prevalence here which would hardly be suspected. The histories of forty-three cases are presented by M. Nocard. Twenty-two of these occurred in dogs, nine in horses, and a smaller number in the cow, the pig, and the cat. It has been found in other animals, such as the guinea-pig.

We cannot review the whole subject as presented by the author, but will refer to the points which are unique, or which have a special pathological interest.

The most frequent form of the disease in the lower animals, as in man, is the spleno-lymphatic, and next to that the splenic. There are some cases in which only the bronchial glands and lungs are involved. Cases illustrating the purely intestinal form are also given, but there are none of the medullary type, and only three cases are known in which the bone medulla was at all affected.

The changes in the blood have some peculiar features. In the domestic animals the normal number of white and red corpuscles, and the ratio between them is greater than it is in man. The average number of red blood globules in the adult horse and dog is 7,500,000 per cubic centimetre. In leucocythæmia this number is reduced to 5,000,000 (the normal number in man) or to 2,000,000. The ratio between the white and red is never smaller than 1 to 12, and often is 1 to 80 or 40. The normal ratio in the domestic animals being 1 to 800 or 1 to 1,000.

Certain successive measurements made by M. Nocard, of the blood of a dog with intestinal leucocythæmia, show a progressive disease in the red corpuscles corresponding with the increase in the white.

The enumerations took place about two weeks apart and gave the following results:

*First enumeration.*—Red blood-corpuscles, 3,425,000 per cubic centimetre; white blood-corpuscles, 12.780: ratio, 1 to 400.

*Second enumeration.*—Red blood-corpuscles, 3,160,000; white blood-corpuscles, 36,800: ratio, 1 to 86.

*Third enumeration.*—Red blood-corpuscles, 2,350,000; white blood-corpuscles, 76,200: ratio, 1 to 30.

This may be interpreted that the red globules, while being used up as usual, or faster than usual, do not receive a fresh supply by transformations of the white. There has been no better theory than that which Virchow originally advanced regarding the essential factor in producing the disproportion of red and white corpuscles in leucocythæmia. This is, that the white corpuscles early in their development are *normally* turned into red, as they pass through the spleen (and medulla of bones), and to some extent while in the blood itself.

In leucocythæmia part of these corpuscles lose the power of undergoing this change and become veritable pus-cells. The observations of Nocard, so far as they go, tend to confirm the theory that there is no increased manufacture of white corpuscles in leucocythæmia, but rather an inability on the part of these cells to go through their normal metamorphoses. The total number of blood-cells is greatly diminished. The symptoms and the severity of the disease are much more due to the lack of the red corpuscles, and consequently of hæmoglobin, than to the excess of the white cells.

It is the opinion of M. Nocard, as well as of other observers, that lymphadenia or Hodgkin's disease, in which there is hyperplasia of lymphoid tissue with profound anæmia, but no relative increase of white cells, is identical with leucocythæmia. This view is by no means universally accepted. And there is certainly some difficulty in fitting it to the view, that the essence of the trouble in leucocythæmia lies in the inability of the white cells to undergo their normal transformations. We can only assume that in Hodgkin's disease the hæmatopoetic organs produce absolutely fewer cells; in leucocythæmia degraded cells are largely thrown out. In the one the deficiency is largely quantitative, in the other qualitative.

But, whatever the theory, there are many clinical facts in favor of the view advocated by M. Nocard. He relates the history of a horse which showed marked development of lymphatic tissue with all the symptoms of leucocythæmia. The blood, however, at first, though very poor in corpuscles, held them in normal proportions (6,675,900 to 9,640).

It was a typical case of Hodgkin's disease. Three weeks later there was a profound leucocythæmia, the ratio of corpuscles being 4,682,500 to 12,250. Other similar cases are given.

As a result of his studies on the lower animals, therefore, M. Nocard defines leucocythæmia as a general diathetic affection characterized by the production, more or less rapid, in all the organs of lymphadenoid tissue. The disproportionate increase of white blood-cells (leucocytosis) is only an accessory fact, an epiphenomenon, not constant, and of which the presence or absence does not modify the symptoms or progress of the affection. It only appears, in the domestic animals at least, at an advanced stage of the disease, and comes on slowly; it may even disappear temporarily or definitely, while the lymphoid growth persists or increases.

The white corpuscles in leucocythæmia, as observed by M. Nocaro, are of two varieties. The one is the ordinary large nucleated white corpuscle; the other consists of apparently a free nucleus, colorless, staining deeply with carmine, without amœboid movement, and of a diameter about equal to that of the red blood-corpuscles. In splenic leucocythæmia the smaller corpuscles (globulins) are very few in number. In intestinal and ganglionic leucocythæmia they predominate over the other forms.

The blood coagulates very slowly, though the fibrin factors are increased. In the horse the clot forms in three characteristic layers, the lower being red from the red globules, the upper being yellow with fibrin, and the middle white with leucocytes. Chemically the blood, as in man, is very deficient in hæmoglobin, and contains a large amount of abnormal crystallizable matters.

In the symptomatology of the disease there are two points of interest brought out. In intestinal and ganglionic leucocythæmia there predominates among the white cells the peculiarly modified form which we have just described. Whether the predominance of these cells, when the spleen is not involved, can have any bearing upon the mode of origin of the blood corpuscles is a question for the physiologist. Another peculiar symptom noted was a polyuria, which only occurred in pulmonary leucocythæmia—that is, when the bronchial glands and lungs were largely involved. The urine in the horse in such cases is increased to two or three times its normal amount (twelve quarts), and the hippuric acid is replaced by urea.

An analogy has sometimes been traced between Hodgkin's disease and acute tuberculosis, the course of the two diseases and the gross appearances as regards the lungs being somewhat alike. Experiments have been tried in order to see whether the new lymphoid tissue or its juices were inoculable. But inoculations, subcutaneous and venous injections, and feeding, all failed to produce any results.

The progress and final termination of leucocythæmia in lower animals do not differ from that in man. Regarding treatment, experiments in the direction of extirpating the spleen and lymphatic glands have, as might be expected, proved unsuccessful. The disease is deep-seated, and fatal to every animal it touches.

### A STATE MEDICAL SOCIETY INDEED.

One of the duties of the medical journalist is to pass, in more or less critical review, the work of the profession in its individual or corporate capacity.

We have accordingly published an account of the meeting of the Iowa State Medical Society, and we shall be pardoned now for making some criticisms upon its work.

As the result of two days' work, the society heard an annual address, a number of reports, and six papers. The delegates also had their photographs taken in group, they took a ride upon the river, and attended eleven elegant receptions. Four or five members who were to have read papers were away, or not prepared. The essays read, with two or three exceptions, were absurdly valueless. The president's address, we are glad to say, was a bright spot in the proceedings. It was an appropriate and scholarly effort, and showed that Iowa certainly has cultured physicians who keep abreast of the thought of the day. The report on insanity and the papers on empyema and color-blindness also deserve notice.

But, on the whole, this meeting was the most singularly barren one that we have experienced the distress of reading about for some time. Iowa is a great State; it has many physicians whom the local press hospitably designate as its "Life-preservers." But they seem to be utterly ignorant of such a thing as medical science, or of the object of medical organizations. We beg, therefore, to remind our esteemed brethren of the State in question that they who study only the art of medicine have no claim to be called members of a learned profession. It is largely to encourage scientific knowledge that societies are organized. But our Iowa "Life-preservers" seem to have united mainly for the propagation of rides on the river, and for the perpetuation of elegant receptions, where the medical mind shall relax its tension and grow giddy beneath the smiles of Iowa's daughters.

In these days of prolific writing no one should inflict a paper on a medical society unless it reviews progress or contains something presumably new and valuable. We trust that the Medical Society of the State of Iowa may remember this. It surely can do something worthy of medical science and of the State. It surely has not done so yet.

## Reviews and Notices of Books.

A Treatise on the Diseases of the Nervous System. By William A. Hammond, M.D. With one hundred and twelve illustrations. Seventh edition. Rewritten, enlarged, and improved. New York: D. Appleton & Co. 1881.

This, the seventh edition of Dr. Hammond's work, has been considerably remodelled. The chapters on insanity are left out; there are additions to the subjects of cerebral congestion, locomotor ataxia, progressive facial atrophy, chorea, epilepsy, and neuralgia. There are new chapters on the symptomatology of cerebral and cerebellar lesions, on the diseases of the sympathetic nervous system, myxœdema, and syphilis of the brain and cord. The author states that he is indebted for much of the new matter to Dr. Labadie-Lagrave, the editor and translator of the French edition of the work.

Dr. Hammond's work has now been before the profession for many years, and its characteristics are very generally known. The present edition has a good many valuable additions, but has lost nothing of its previous individuality as a medical work. Dr. Hammond has the qualities of a successful author. He has extensive knowledge, though it is more varied than profound. His practical experience is large, his convictions are positive, and he can set them forth clearly and attractively. It is not surprising that his book has been a very popular one. And the present edition is, as modestly stated on the title-page, "improved."

No one should read this work, however, without bearing in mind its undoubted weaknesses. The author, with all his acuteness and wide observation, is not, we venture to think, an accomplished physiologist or a thorough pathologist, and he is, therefore, often a superficial reasoner upon points involving these sciences. One might also find some fault with his anatomical knowledge, for he continues to announce (p. 643) that "the *sacral* portion of the cord presented no abnormal appearance to the naked eye." But this particular spinal cord came from Delhi, where, perhaps, they grow longer.

A large part of the pathology of the present work is a compilation; what is original is, we think, bad. For example, Dr. Hammond has enlarged his experience and his remarks on the subject of cerebral congestion. He gives, with much minuteness, the symptoms of the prodromal period and of the four different forms of this supposed condition. The chapter is a most misleading one. We have not space to go into a critical analysis of it. We would say, however, that the idea that cerebral congestion is the cause of various definite trains of morbid symptoms is to a large extent hypothetical.

The theory is not supported by post-mortem evidence; there is no unity upon the question of symptoms among clinicians. Many of the symptoms now widely recognized as due to nutritive disturbances, or neurasthenia, are here, without good reason, assigned to congestion. In the recent Croonian lectures Dr. Moxon has shown very clearly how slight a basis there is for assigning congestion as the primary cause of so many cerebral disturbances. The description of the value of the ophthalmoscope and otoscope in diagnosing this same condition gives a very wrong impression as to the value of these instruments. It may be laid down as certain that one cannot diagnose congestion of the brain by examining the retina. A retinal and cerebral congestion may go together and they may not. At best an ophthalmoscopic examination can have only a weakly confirmatory character. The same, so far as investigations have gone at present, may be said of the examination of the tympanum.

We might criticise, with equal reason, the author's pathological theories regarding the spinal cord: its anæmic tracts and its perceptive and other psychical powers. It might be said also that a more philosophical writer would have referred to some of the peculiarities in the morbid phenomena of the nervous system of Americans. It is certainly time that physicians, and especially neurologists, recognize the fact that nations and races have their idiosyncrasies as well as individuals. But we may perhaps be bringing into too great prominence points which after all do not greatly impair the value of the book. It is a treatise very creditable to American medicine, and widely and justly appreciated abroad, as well as here. One has to read it with a little reserve, but after all it is perhaps the most instructive as it is the most interesting work on the subject of nervous diseases in the English language.

THE DIAGNOSIS OF DISEASES OF THE SPINAL CORD: An Address Delivered to the Medical Society of Wolverhampton, October 9, 1879. By W. R. GOWERS, M.D. With Additions and Illustrations. Second Edition. Pp. 84. Philadelphia: Presley Blakiston. 1881.

WE CAN warmly commend this little book. It gives in small compass the main points regarding the anatomy and physiology of the cord, with the indications for diagnosing the seat and character of the various lesions. In his expositions the author rides no hobbies, but presents the established facts with clearness, and discusses mooted questions briefly and judiciously. There are some excellent diagrams of the cord. The book is a year old, and lacks in one or two points on that account.

DR. J. SUYDAM KNOX has been made Adjunct Professor of Diseases of Children in Rush Medical College, Chicago.

# Reports of Societies.

## AMERICAN NEUROLOGICAL ASSOCIATION.

*Seventh Annual Meeting, held in New York, June* 15, 16, *and* 17, 1881.

WEDNESDAY, JUNE 15TH—FIRST DAY, AFTERNOON SESSION.

THE association met in the hall of the New York Academy of Medicine, and was called to order at 2.30 P.M. by the President, DR. ROBERTS BARTHOLOW, of Philadelphia.

NOMINATIONS FOR MEMBERSHIP.

The following were nominated for membership:

Drs. A. B. Clevenger and H. Gradle, of Chicago; Dr. Burt G. Wilder, of Cornell University; and Drs. C. K. Mills and Wharton Sinkler, of Philadelphia.

The PRESIDENT appointed the following

COMMITTEE ON NOMINATIONS:

Drs. J. S. Jewell, of Chicago; Isaac Ott, of Pennsylvania; R. W. Amidon, William J. Morton, and A .D. Rockwell, of New York.

COMMUNICATIONS TO THE ASSOCIATION.

DR. J. C. SHAW offered the following resolution, which was adopted:

*Resolved*, That no case be presented to the association unless it forms the basis of a written communication.

RESIGNATION.

The resignation of Dr. T. B. M. Cross, of New York, was read and referred to the Council. (Subsequently accepted.)

AMENDMENT TO THE CONSTITUTION.

An amendment providing for the election of honorary and associated members, proposed by the Secretary, DR. E. C. SEGUIN, was adopted.

The first paper was read by DR. J. C. SHAW, of Brooklyn, and was entitled

THE TENDON REFLEX IN GENERAL PARALYSIS OF THE INSANE.

In 1879, Dr. Shaw read before the association a paper on the "Tendon Reflex in the Insane," in which he stated, as the result of his examinations in *ten* cases of general paralysis of the insane, that tendon reflex was absent in *three* cases; that when it was absent, the diagnosis of sclerosis of the posterior columns of the spinal cord was justifiable, and he also, at that time, ventured the opinion that light cortical sclerosis would not abolish the tendon reflex. His more recent observations had confirmed the opinions then expressed. He had had under observation 82 cases of general paralysis of the insane, 71 males and 11 females, and had had the opportunity to examine the spinal cord microscopically in 18 cases. Dr. Shaw's conclusions were that, whenever tendon reflex is abolished, sclerosis of the posterior columns exists; when the tendon reflex is very slight, the posterior columns are the seat of disease, and later it will be entirely abolished; where the reflex is normal, autopsy shows no lesion in the spinal cord, and when it is exaggerated there is secondary degeneration symmetrically of the lateral columns, or

diffuse myelitis, which involves more or less the white matter, but the lateral columns chiefly. To abolish tendon reflex, the sclerosis must be quite extensive.

DR. J. S. JEWELL, of Chicago, asked with reference to the mechanism of the cases in which there was abolition of tendon reflex with sclerosis of the posterior columns.

DR. SHAW replied that the disease interfered with the sensory tract so as to interrupt the sensory power.

DR. A. D. ROCKWELL, of New York, had no doubt that, as a rule, where there was much disease of the posterior columns, tendon reflex was abolished, but in fourteen cases of posterior spinal sclerosis which he had observed there were two in which tendon reflex existed. In two cases he had been unable to get it, although the patients were apparently healthy, so far as the spinal cord was concerned.

DR. SHAW had seen cases in which tendon reflex was absent without other evidence of disease of the spinal cord, but he regarded them as exceptional. He thought that Westphal believed that in such cases disease of the posterior columns exists.

DR. BARTHOLOW, of Philadelphia, asked if it was true tendon reflex in such cases.

DR. SHAW thought that it had been so regarded.

DR. SEGUIN, of New York, referred to a paper written by Dr. Landon C. Gray, in which several cases of absence of tendon reflex in apparently healthy persons were reported.

DR. JEWELL remarked that when he found tendon reflex absent, he always suspected disease of the posterior columns of the spinal cord, and the mechanism he regarded as exceedingly simple, viz. : that the diseased portion was directly across the ingoing impulse.

If, however, there were no other signs of disturbance in the sensory tract of the cord, he regarded it as one of a class of cases in which tendon reflex was absent, because persons differed very greatly with reference to tendon reflex, as they did with reference to the presence or absence or degree which existed with regard to the other reflexes.

### CENTRAL NERVOUS SYSTEMS OF REPTILES

was the title of a paper sent by DR. J. J. MASON, of Newport, and read by the Secretary. It was discussed by Dr. E. C. Spitzka, of New York.

DR. ISAAC OTT then read a paper

### ON THE ACTION OF AN IRRITANT.

The writer concluded that certain irritants produce a variety of phenomena referable to the nervous system, while others do not; that those phenomena were not due to circulatory changes, but to excitation of the central nervous system; that they produce partial palsy of the motor nerves of the opposite side; that they inhibit the cardiac and respiratory centres; that they lower the temperature and dilate the pupil.

The paper was discussed by Drs. E. C. Spitzka, J. S. Jewell, E. C. Seguin, and W. J. Morton.

### PECULIAR EFFECT OF BROMIDE OF POTASSIUM IN INSANE EPILEPTICS

was the title of a paper sent by DR. H. M. BANNISTER, of Chicago, and read by the Secretary.

The effect referred to by Dr. Bannister was the development of maniacal furor while the insane epileptic was taking bromide of potassium. A detailed history of one case was given in which the epileptic convulsions were arrested, but soon afterward maniacal furor developed, which subsided upon withdrawing the remedy, and returned with its renewal. Two other similar cases were cited.

DR. SPITZKA said that attention had been directed to this peculiar effect by a German alienist. He had also observed cases of the kind reported by Dr. Bannister, and believed that it would result in more than twenty-five per cent. of the inmates of our public institutions.

DR. JEWELL remarked that, while the peculiar action of the bromide mentioned had not been unknown, it was important, whether the proportion of cases was as large as suggested by Dr. Spitzka, or was small. The fact should be recognized. He thought it probable that quite a number of epileptic insane, placed in asylums and kept upon the classical bromide treatment, were there as insane persons for that very reason. In all cases of epileptic insanity this possible effect produced by bromide of potassium should be constantly and distinctly borne in mind; that is, one of the results of the bromide treatment of epileptic insanity, whether directly or indirectly was not determined, was maniacal furor, which rendered the person dangerous and liable to confinement and restraint.

DR. J. C. SHAW had seen this peculiar effect more frequently in dispensary practice and among children than among the inmates of an asylum. He had seen one or two cases in the asylum of which he has charge, in which it became necessary to discontinue the drug.

DR. SEGUIN had observed this peculiar condition in several cases, but he did not believe that it was due to the bromide. He thought it was due rather to the suspension of the epilepsy. Vander Kolk had observed the same thing while treating epileptics with setons, and by allowing the patients to have fits the mental equilibrium had been restored. Dr. Seguin had observed the phenomenon following the suspension of the *petit* and the *grand mal*, and believed that it was due to the suspension of the epileptic condition rather than to the drug.

DR. WILLIAM A. HAMMOND, of New York, said that, while it was true the sudden suspension of epilepsy would produce mental aberration, he thought it was an infrequent occurrence when the frequency with which epileptic paroxysms were stopped without the development of these symptoms was considered. He had seen many cases in which acute mania had been produced with bromides, and he believed that there was a stage beyond which bromides could not be continued without producing mental aberration. The cumulative properties of the bromides should be studied more carefully than they had been. He had had four patients die while under the extensive use of bromides under his direction. Sometimes the dangerous symptoms could be removed by purgation.

DR. ROCKWELL referred to a case in which, under his direction, the bromides had been continued eighteen months, with the view to carry the patient over, if possible, the point at which the convulsions had heretofore returned, and now, in view of Dr. Bannister's case and others reported, it became a question with him whether or not the remedy should be continued, as the patient was very much depressed, threatened suicide, etc.

DR. HAMMOND said that if he had epilepsy he would take the bromides all his life.

The association then adjourned to meet at 8.30 P.M.

FIRST DAY, EVENING SESSION.

The association was called to order at 8.45 P.M. by the President. The Council recommended for membership Drs. A. B. Clevenger and H. Gradle, of Chicago; Burt G. Wilder, of Cornell University, and C. K. Mills, of Philadelphia. They were elected by an affirmative ballot cast by the Secretary.

REPORT OF THE COMMITTEE ON NOMINATIONS.

The Committee on Nominations reported: *For President*, Dr. William A. Hammond, of New York; *For Vice-President*, Dr. Landon C. Gray, of Brooklyn; *For Secretary and Treasurer*, Dr. E. C. Seguin, of New York; *For Members of the Council*, Drs. J. S. Jewell, of Chicago, and Isaac Ott, of Pennsylvania. These candidates were elected by a ballot cast by the Secretary.

DR. A. D. ROCKWELL then reported, with remarks, a case of

PERIPHERAL PARALYSIS FROM PRESSURE,

which illustrated the fact that complete absence of electro-muscular contractility is not necessarily an unfavorable condition which cannot be removed. The point specially insisted upon was the persistent use of the galvanic current, although response might not be obtained for a long time. In the case reported one month elapsed before the muscles reacted at all, and in a case previously reported it was six weeks before galvanic contractility took place.

DR. W. A. HAMMOND thought all would agree that it was more difficult to restore electro-muscular contractility where the paralysis was due to peripheral injury, than in a case in which it was of central origin.

DR. JEWELL thought that many cases of peripheral paralysis, in which there was evidence of absolute destruction of nerves, should be considered more hopeful than they usually were. He then cited a case in which the left lower extremity of a woman had been utterly useless for eleven months, with paralysis of sensation and motion after delivery with instruments, and by using the interrupted galvanic current, with massage, persistently for nearly a year, she was almost completely cured.

DESTRUCTIVE LESION OF THE LEFT CENTRAL HEMISPHERE

was the title of a paper sent by DR. H. D. SCHMIDT, of New Orleans, and read by the Secretary.

The man received a blow from a club, on the left side of his head, in 1865 or 1866, and was uncon scious for several weeks. There was also paralysis of the extremities of both sides. No scalp-wound was produced. The man recovered and retained all his mental faculties. At the autopsy, a large hole—9½ ctm. horizontal by 5 ctm. vertical—was found in the bony vault, in the left parietal region, closed by a dense membrane. Beneath this was a large, ovoid hemorrhagic cyst. As the result of pressure produced by the cyst, the cerebral hemisphere presented a concave surface, the white substance of the brain had been destroyed, while the gray matter remained in the shape of a shell. The chief interest in the case centered in the extent of the lesions, and the length of time which they had existed without disturbing either the general health or the mental faculties of the patient.

DR. J. S. JEWELL, of Chicago, then read a paper

ON THE EARLY USE OF STRYCHNIA IN MYELITIS,

the special object of which was to call attention to the early and free use of this remedy in acute and subacute affections of the spinal cord, in which its use had apparently been held to be unphysiological and even dangerous. The cases were those in which the accepted treatment had consisted in the use of ergot, massage, counter-irritation, electricity, etc., but in which, while the condition of the patient was daily and steadily growing worse, he had turned to strychnia in small and gradually increased doses, persistently used, and with the result of greatly benefiting the patient. In the persistent use of strychnia, exceeding care to prevent the patient from using the spinal cord (rest in bed perpetually, on the side or face), exceeding care to protect the patient from exposure (temperature of room maintained at 70° F.), so as to avoid a chill, were the important elements in his plan of treatment.

He had no theory to offer, except that the blood-vessels lost their *tonus* very quickly, and the vaso-motor apparatuses became fatigued and exhausted much earlier than was ordinarily supposed.

DR. W. A. HAMMOND asked Dr. Jewell three questions.

*First.*—Did the strychnia produce any tonic spasm?

*Second.*—Were the cases cited uncomplicated ones of disease of the spinal cord?

*Third.*—Might they not have been cases of spinal anæmia?

DR. JEWELL replied, first, that no tonic spasms were produced; second, that they were uncomplicated cases of disease of the spinal cord; and third, that he had not lost sight of the question of spinal anæmia, and had discussed it in the latter part of his paper, which had not been read.

On motion, the further discussion of Dr. Jewell's paper was made the first order for Thursday's session, after which the association adjourned to meet at 2 P.M. on Thursday.

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THURSDAY, JUNE 16TH—SECOND DAY, AFTERNOON SESSION.

The association was called to order at 2 P.M. by the President.

The Council recommended for membership Dr. Wharton Sinkler, of Philadelphia, and he was duly elected.

Letters of regret at being unable to attend the present meeting had been received from Dr. John Van Bibber, of Baltimore, and Dr. J. J. Mason, of Newport, and the latter extended a cordial invitation to the association to hold its next annual meeting in that city.

THE EARLY AND FREE USE OF STRYCHNIA IN SUBACUTE MYELITIS AND ALLIED FORMS OF DISEASE OF THE SPINAL CORD.

The discussion of Dr. Jewell's paper on the above subject being next in order,

DR. E. C. SPITZKA remarked, that he would not dare to use the remedy in the early stages of inflammatory diseases of the cord. His experimental researches, however, had led him to the conclusion that the drug might perhaps be used in the early stages with benefit, if irritative symptoms were not present.

DR. HAMMOND asked Dr. Spitzka if he did not discover, after giving excessive doses of strychnine to an animal, rupture of blood-vessels in the substance of the spinal cord.

DR. SPITZKA said he always did when death was quickly produced.

DR. HAMMOND asked if that fact did not indicate

congestion of the spinal cord as an effect of the strychnia.

Dr. Spitzka said that he had always attributed the hemorrhages to respiratory spasm and death by asphyxia.

Dr. Hammond asked if, in a case of congestion of the spinal cord, the susceptibility of the cord to the influence of strychnia was not increased. He believed that Dr. Jewell's cases were anæmia, rather than congestion of the cord, and one strong point of evidence in favor of that position was the fact that in none of them were any of the physiological effects of strychnia produced, which must have occurred had the condition been that of congestion. In anæmia of the cord, strychnia could be given in very large quantities without producing its physiological effect. He admired Dr. Jewell's judgment, respected in the highest degree his opinion, accepted without reserve his observations, but doubted the correctness of his diagnosis in the cases reported.

Dr. Jewell did not wish in the least degree to escape the criticism offered by such a matured judgment and experience as Dr. Hammond's, but, on the contrary, enjoyed them; for he was fully aware of the difficulties in making a differential diagnosis between spinal anæmia and spinal congestion, and was willing to meet them. In his judgment it was possible, in ninety-nine out of a hundred cases, to determine with tolerable accuracy whether we had to deal with decided spinal anæmia or decided spinal congestion —difficult as the cases were to distinguish the one from the other.

*First.*—That acute and passive congestions of other organs of the body existed was well known and not disputed.

*Second.*—That such congestions existed in the central nervous system (cranial) no one doubted.

By passive congestion he meant that which might be regarded as almost purely vaso-motor in its origin, and he spoke with special reference to arteries and capillaries. The quantity of blood in those vessels might be increased, in consequence of disorders of their walls, either muscular or vaso-motor. The condition was that of loss of *tonus* in the muscular coat of the blood-vessels, and the result, passive congestion.

*Third.*—Spinal anæmia was made better by increased atmospheric pressure, whether it be obtained at the sea-level or in an air-tight chamber.

*Fourth.*—Cases of passive congestion of the spinal cord improved when sent to higher altitudes.

*Fifth.*—Spinal anæmia was made better by exposure to cold (cool, bracing climate), and increased in severity in warm climates.

*Sixth.*—Spinal passive congestion, on the contrary, improved under the influence of warmth; hence, the patients did better in a warm than in a cold climate, and were beneficially affected by the local application of heat, the use of the Turkish bath, etc.

*Seventh.*—There was a diminution in all the reflexes in passive congestion of the spinal cord.

By anæmia he meant contraction of a blood-vessel in consequence of a stimulus which reached it. That implied some excitation of the vaso-motor supply, which could be traced usually to some irritation, whether in the pelvic, the gastric, or an intermediate zone.

Dr. Jewell continued his remarks at some length and presented other points in the differential diagnosis.

Dr. Hammond thought it curious that Dr. Jewell saw cases of congestion in such numbers, and anæmia so frequently, when exactly the opposite would be true if Dr. Jewell's argument concerning the effect of atmospheric pressure had any sure foundation. In other words, he regarded it as a fine illustration of transcendental philosophy to conclude that because a patient improved under such and such circumstances and was worse under opposite ones, he therefore must have congestion or anæmia, and it was begging the question completely.

Dr. E. C. Seguin was opposed to the doctrine of the existence of hyperæmia and anæmia, and looked upon the terms spinal hyperæmia and spinal anæmia as merely expressions for hypothetical views. He knew of no post-mortem or experimental evidence which supported the doctrines. All that had been heretofore adduced were observed and therapeutical phenomena put together in the right way to prove the existence of these two conditions. With respect to the spinal cord, researches had not shown any basis for the opinion that hyperæmia was the first step in myelitis. It was not even an important factor. The changes which took place were tissue-changes from first to last. With reference to the use of strychnia, however, he was inclined to agree with Dr. Jewell, but would suggest that the term "subacute myelitis" be changed to *subacute diffuse myelitis*. He had administered the remedy in moderate doses in diffuse myelitis, following diphtheria, etc., with the best of results, apparently due to the strychnia, and he was prepared to continue its use in acute diffuse myelitis.

The discussion was continued by Drs. Landon C. Gray and E. C. Spitzka and closed by Dr. Jewell, who said that he did not at all regard congestion as the first condition in inflammation, but simply as a clinical factor. Long before the congestion appeared tissue-changes existed, and the hyperæmia was entirely secondary. Besides, he did not share in that scientific sceptical nihilism presented by Dr. Seguin, which accepted nothing except what could be seen or smelled, or was susceptible of mechanical demonstration. It was all well in its legitimate field, but there was a *logical inference* which should be respected in all successful efforts to obtain the truth. That he had succeeded in obscuring Dr. Hammond's comprehension was more than he expected at the outset, but he promised to elaborate and set his views forth so clearly in the subsequent publication of the paper that even his learned opponent would be forced to acknowledge their value.

### STATIC INDUCED ELECTRICAL CURRENT.

Dr. W. J. Morton read a paper on the above subject, which will be published in a subsequent number of the Record. (See Medical Record, vol. xix., p. 368.)

Dr. W. R. Birdsall, of New York, thought it should not be called an "induced" current.

Dr. Rockwell believed that, absolutely, static electricity was of value, but relatively it had not the value claimed for it. The question was further discussed by Drs. Gray, Seguin, Gradle, and Morton.

### THE HYPOTHETICAL AUDITORY TRACT

was the title of a paper read by Dr. Græme Hammond, of New York. (See Medical Record, vol. xix., pp. 309 and 429.) It was discussed by Dr. Spitzka, and also by Dr. E. C. Seguin, who reported an autopsy confirmatory of Dr. Hammond's observations (see Dr. Ball's case, Archives of Medicine, April, 1881).

Dr. George M. Beard then read a paper

ON THE MEDICAL USE OF STATIC ELECTRICITY,

in which he stated that it ought to possess some advantage over galvanism and faradism, but such advantage had not been proved, because there were no facts from which the comparison could be made. He thought that the term "induced" used by Dr. Morton was admissible, although strictly and technically incorrect, and he suggested the term "statical current of electricity" as one which would avoid confusion and stand the test of criticism.

Drs. Rockwell, R. W. Amidon, of New York, Birdsall, and Morton participated in the discussion, the drift of which was not favorable to static electricity. First, galvanism or faradism, and then franklinism.

HOW TO USE THE BROMIDES

was the title of a paper read by Dr. Geo. M. Beard, in which he gave the following propositions:

*First.*—The object, generally, in using the bromides was to produce a definite effect—bromization in a greater or less degree.

In a certain sense it was a disease artificially produced. Severe effects were not required. Mild effects of the remedy were all that were needed in most cases.

*Second.*—To induce bromization it was usually advantageous to give immense doses. He often prescribed as high as a dram or more. Doses of fifteen or twenty grains might be taken for some time without giving rise to symptoms of any kind. In some cases one hundred grains taken in one or two tumblers of water was all that would be required to break up an attack of hysteria, headache, or prevent seasickness.

*Third.*—They should be given in immense doses, only for a short time, save in epilepsy and epileptoid conditions. The cumulative effect must be recognized and constantly borne in mind. Sometimes a single large dose was sufficient to produce bromization, and that might occur within twenty minutes.

*Fourth.*—Bromides, if used long and frequently upon any one patient, should be given in alternation or combination with tonics of some kind. Bromides one week and tonics the next, was a good rule.

One of the best remedies against bromization was powdered citrate of caffein, in from three to five grain doses.

*Fifth.*—It was of advantage to use a number of bromides in combination.

While administering the bromides the patient should be kept under observation continuously.

The paper was discussed by Drs. W. A. Hammond, L. C. Gray, E. C. Seguin, and J. S. Jewell.

Dr. Hammond preferred the bromide of sodium, if any of the salts were to be employed, but of late he had been using pure bromine, and had thus avoided the acne and the ulcerative manifestations of the bromide salts. His formula was

℞. Bromine..... 3 j.
Aquæ..... ℥ viij.

M. S.—Teaspoonful well diluted with water.

Dr. Jewell had used pure bromine with favorable results in cases in which the alkaline bases could not be tolerated, and Dr. Seguin had reached the conclusion that the efficient agent was the bromine, and not the potassium.

The association then adjourned, to meet on Friday at 2 P.M.

Friday, June 17th—Third Day, Afternoon Session.

The association was called to order at 2.30 P.M. by the President.

The Secretary announced the reception of letters from Drs. Eads and Putnam, of Boston, regretting their inability to be present.

NERVE-STRETCHING IN LOCOMOTOR ATAXY

was the title of a paper read by Dr. W. A. Hammond, of New York.

The sciatic nerve was stretched. His conclusions were that there was ground for hope with reference to the operation. A moderate extension, not to exceed an inch, was all that was necessary. The best place to reach the nerve was just where it came from under the biceps muscle. Too much stretching was bad. A *résumé* of nine cases was given, seven by other observers and two of his own.

Dr. Jewell mentioned two cases reported recently by Bernhardt, in which the success had been marked, but not complete.

Dr. G. Hammond referred to a case in which the operation was followed by an aggravation of all the symptoms.

The discussion was continued by Drs. Rockwell, Morton, Spitzka, Amidon, Seguin, and Birdsall, and a doubt concerning the propriety of the operation seemed to be the result; also a doubt whether the good results which had been obtained were due to the nerve-stretching or to the operation itself.

Dr. H. Gradle, of Chicago, then read a carefully prepared paper on

CILIARY SPASM OF CENTRAL ORIGIN.

It was discussed by Drs. Spitzka, Seguin, and Jewell.

Dr. W. R. Birdsall, of New York, exhibited

A NEW FOOT-DYNANOMETER,

and Dr. G. Hammond, of New York, described a dynanometer which determined the number of pounds registered.

Dr. F. T. Miles, of Baltimore, reported a case of

DIFFUSE MYELITIS.

A man, thirty-three years of age, was seized with symptoms of congestive malarial fever, was treated with quinine, apparently recovered, but had a relapse. Soon afterward he began to suffer from weakness, pain, and numbness in his lower extremities, and finally had complete paralysis of the lower, and extreme paresis of the upper extremities, and most complete paralysis of the face upon both sides. There was no tendon reflex. There was marked delay in the transmission of sensation, and finally there was decided hyperæsthesia. There was mechanical response to striking the muscles, no response to faradism, but degenerative reaction to galvanism. There was neither bladder nor bowel trouble. Respiration was not affected, nor deglutition, and the patient could cough and protrude his tongue. He lived in a malarial region. It was probable that at one time he was affected with syphilis. He recovered completely under the use of iodide of potassium, electricity, etc.

Dr. Jewell referred to a case with an almost identical clinical history, except the suspicion of syphilis, but the man became hopelessly ruined by contracture. The discussion was continued by Drs. Seguin and W. A. Hammond, and at its close the association adjourned to meet at 8.30 P.M.

THIRD DAY, EVENING SESSION.

The association was called to order at 8.45 P.M., by the PRESIDENT.

The Council recommended for

HONORARY MEMBERS,

J. M. Charcot, Paris; J. Hughlings Jackson, London; W. Erb, Leipsig; C. Westphal, Berlin; Theodore Meynert, Vienna. Unanimously elected.

The Council further recommended for

ASSOCIATED MEMBERS,

Thomas Stretch Dowse, W. R. Gowers, David Ferrier, H. Charlson Bastian, and J. Russell Reynolds, of London, Eng.; Moritz Bernhardt, of Berlin; Camillo Golgi, of Reggio, Italy; and Dr. Obersteimer, of Vienna.

DR. L. C. GRAY called up his proposed

AMENDMENT TO THE CONSTITUTION,

proposing that the officers of the Association be nominated by the Society on the first day of the annual meeting, instead of by a committee on nominations.

Adopted.

TRANSFERRED MEMBERS.

Dr. N. B. Emerson, of Honolulu, and Dr. Lombard, of London, Eng., were transferred from active to associated membership.

DR. F. T. MILES, of Baltimore, presented a specimen of

TUMOR OF THE PONS,

and DR. CHARLES K. MILLS, of Philadelphia, read a paper on the same subject, with the addition,

CONJUGATE DEVIATION OF THE EYES WITH ROTATION OF THE HEAD,

which was discussed by Drs. W. A. Hammond and Spitzka.

DR. F. P. KINNICUTT, of New York, reported a case of

CHOREA MAJOR.

The case was interesting chiefly on account of the high temperature, 103° F. and upward, thought to depend upon the ceaseless and violent muscular contractions, the improvement under hydrate of chloral, and the tolerance of the drug which the patient, a girl aged fourteen, exhibited, taking from seventy to one hundred grains daily.

DRS. MILLS and JEWELL doubted the causal relation claimed between the muscular contraction and the elevation of temperature.

RESISTANCE OF TABETIC PATIENTS TO ACONITIA

was the title of a paper read by DR. E. C. SEGUIN, of New York. He had observed in nine cases, two by Dr. Birdsall and seven of his own, that the patients took large doses of aconitia, as high as six one-hundredths of a grain of Duquesnel's preparation, without producing any of the physiological effects of the drug.

He suggested that it might be a new symptom of posterior spinal sclerosis.

The paper was discussed by Drs. Jewell, W. A. Hammond, Spitzka, and Birdsall.

DR. SEGUIN then read a paper on

POST-DIPHTHERITIC PARALYSIS.

Diphtheria followed a slough caused by a carbolic-acid injection into a pile. The patient first noticed weakness on the 20th of December, 1880, the ataxia had passed away on the 7th of February, 1881, and had been succeeded by paralysis, and in the first week of April following the patient had nearly recovered.

DR. MILLS referred to a case in which the paresis disappeared and the ataxia remained, but recovery took place.

DR. SEGUIN regarded his case as one of infectious myelitis.

The place for holding the next annual meeting was referred to the Council with power.

The association then adjourned.

## CONNECTICUT STATE MEDICAL SOCIETY.

[Special Report for THE MEDICAL RECORD.]

THE nineteenth annual convention of this venerable society was held at the Common Council Chamber, City Hall, Hartford, Wednesday and Thursday, May 25th and 26th. The first day's session was devoted to business, and was organized promptly at three o'clock. In the absence of DR. G. S. PLATT, the President, DR. WILLIAM DEMING, the Vice-President, took the chair, and, in accordance with the usual custom, addressed the Fellows on such subjects as appeared worthy of their consideration or action. The continued growth and prosperity of the society was mentioned, as evidenced by its increase in numbers, a healthier condition of the treasury, and prompter payment of dues by members; also by an increased interest in the conventions of the society, and a better attendance. Of those whose duty it was to be here on this day, but four were absent, two of these in Europe. The value and importance of the work of the State Board of Health was considered, and that institution and its general aims and purposes warmly commended. The status of medical education was considered and a four years' course of study recommended, also a better preparatory training. The laws regulating the sale of poisons and the pharmacy act in general was considered and, on the whole, approved. The law concerning itinerant practitioners was pronounced to be a step in the right direction, and would, it was hoped, pave the way for a general law regulating the practice of medicine. The progress of State medicine was also noted. Twenty-six States now had Boards of Health; five, since the last annual meeting of this society, had organized such boards; and several others were considering the subject in their legislatures.

The usual routine business was then transacted, after which the following reports of special committees were received: On Medical Experts, by DR. G. W. RUSSELL, of Hartford. This was a thorough and carefully studied *résumé* of the whole subject. The evils of the present system were clearly and graphically pointed out. At first it seemed that a remedy was easily to be found in the plan of having the judge select one or more medical experts, or having them selected by the court, or some similar plan. The objection that there is no power belonging to either judge or court to summon experts, could be met by a change in the statute law conferring such power; but an insuperable objection to any radical change in the present system lies in the inherent right of the accused to confront the witnesses against him, so that even if the court or judges should summon an expert or a body of experts, and

they should render their opinion, if adverse to the accused he would still have the right to summon his own expert or experts to contravene the testimony against him; nor is there any power that can take that right from the accused.

A skilful lawyer can generally make the mercenary testimony of a biased expert evident to the jury, and thus render it harmless, but it has the effect to depreciate all expert testimony at the same time. The only hope for the future lies in elevating the character and attainments of the medical profession itself, so that it shall be difficult to find amongst its members such professional witnesses as now, to the disgrace of the profession, stand ready to sell their opinion to the highest bidder.

The report of the Committee on the Sale of Poisons, by DR. RUFUS BAKER, of Middletown, recommended that the list of poisons, the sale of which was to be recorded, should be much enlarged, and a second class formed also, whose sale should be restricted. The report on vital statistics did not advocate any additional legislation. There was considerable discussion on certain abuses in publishing the names of patients or physicians in local papers when publishing registration reports. While no further legislation was advocated, the subject was referred to the Secretary of the State Board of Health, requesting him to take such action as might be necessary.

A Majority and Minority Report were presented on the subject of a Lunacy Commission. On the majority report DR. SHAW defended the present method of treating the insane, while admitting the necessity of progress in some departments, and commending lunacy commissioners especially for the larger States. The minority report by DR. CLEAVELAND, of Middletown, was devoted to an attack on the present system, a portrayal of its evils, and in general occupying the same ground as that taken by Dr. Wm. A. Hammond and his followers; he also condemned the plan of a lunacy commission, except a national organization. Owing to the lateness of the hour, debate on these papers was postponed, and they go over to the next convention as unfinished business.

The report of the TREASURER was next read and referred to the auditing committee, who reported that they had examined it and found it correct. It shows a balance of nearly four hundred dollars in the treasury, and an increased honesty among the members in paying their just dues to the society. These are small to each individual, but negligence in payment or delay causes great annoyance to the officers of the society.

The Nominating Committee made report, and officers were elected as follows: *President*, Dr. William Deming, Litchfield; *Vice-President*, Dr. William G. Brownson, New Canaan; *Secretary*, Dr. G. W. Chamberlain, Hartford; *Treasurer*, Dr. F. D. Edgerton, Middletown; *Committee on Matters of Professional Interest in the State*, Dr. W. A. M. Wainwright, Hartford; Dr. L. S. Wilcox, Hartford; Dr. G. F. Sims, Bridgeport.

The Committee to nominate Professors to the Medical Department of Yale, reported that they had held a session during the year and recommended the following as Professors in that College: Dr. M. F. Prudden and Dr. F. E. Beckwith.

The Committee on Honorary Members and Degrees reported the name of Pliny Earle, of Northampton, Mass., for honorary membership. By rule this lies over one year.

After the transaction of the usual routine of business the convention adjourned. In the evening a reception was given by the well-known gynecologist, DR. M. D. MASON, which was largely attended and proved a very enjoyable affair.

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THURSDAY'S SESSION.

The convention met at half-past nine, the PRESIDENT-ELECT in the chair. The SECRETARY read the report for the preceding year. The same general features marked this year that had been the characteristics of the last few years: a steady increase in numbers, interest in the society, and a more healthy state of the treasury. In three of the counties, Hartford, Middlesex, and Tolland, it has now become the rule to pay clear every year all dues; in three others the deficit was very small; while in the other two, New Haven and Fairfield, there were signs of marked improvement over former habits. The society now numbers four hundred and thirty, a net gain of ten over last year. There were thirty new members, seven deaths, and thirteen removals. Ten of the new members were graduates of Yale Medical School, nine of the College of Physicians and Surgeons, and the rest divided among several schools, one or two of each.

The report of the Committee on Matters of Professional Interest discussed the recent prevalence of small-pox, and the contagiousness of consumption, which was the subject for report from the county societies. It was the general opinion that consumption was contagious by long contact, *e. g.*, sleeping with a consumptive; the influence of a wet location as a predisposing cause was noticed by some; that resulting from occupation by many, *e. g.*, stone-cutters, polishers, grinders, etc. The history of epidemic diseases during the year, in the report of the State Board of Health was especially commended. The report was followed by considerable debate.

Delegates from other societies and reports of delegates to other societies were then received, also members of other societies present. Dr. Robert Dixon, a delegate from the Maine Society; Dr. T. W. Perry, a delegate from the Rhode Island Society, presented the greetings of their societies. A telegram was also received from the New Jersey Medical Society, then in session at Long Branch, to which the secretary was directed to respond. Dr. E. C. Seguin, of New York, an honorary member of this Society; Dr. Pliny Earle, of Northampton, Mass.; Dr. Paul Mundé, of New York; and Dr. A. R. Smart, of Michigan, were present as guests of the society.

DR. E. C. SEGUIN, at the invitation of the President of the Society, then read an essay on "The Importance of the Early Recognition of Epilepsy," illustrated with clinical notes. It was a clear and exhaustive discussion of the insidious approach of this deceptive malady, treating of both forms of epilepsy proper, and also of petit mal. Any abstract would fail to do justice; it must be read as a whole to be appreciated. It is a valuable contribution to medical literature from the pen of a master.

DR. S. B. ST. JOHN followed with an able essay on "Sympathetic Ophthalmia," at the close of which he exhibited a magnet for the removal of particles of steel or iron from the eye. At the end was a prolongation to follow the course of the particle, if it had penetrated deeply. The power of this small magnet, as shown in upholding many times its own weight, was remarkable. The essay was very interesting and instructive.

DR. FLUSCHNER, of New Haven, then read an essay

on "Non-pharmacological Therapeutics," in which he discussed many remedial measures of generally recognized value, and others not so well known, all of which were not officinal. The water-cure, massage, and electricity received attention among other agencies.

"The Influence of Temperature upon Disease" was very ably discussed by DR. C. B. NEWTON, of Stafford Springs, and the "Treatment of the Third Stage of Abortion," by DR. J. H. GRANNESS, of Saybrook.

DR. M. D. MASON read a carefully prepared paper on "Lacerations of the Cervix," giving the history, indications, and counter-indications for treatment, illustrating his statements by the details of fifteen clinical cases.

The essay was discussed by DR. MUNDÉ, of New York, who illustrated his remarks by plates in chromo-lithography, prepared for his essay on the subject lately published. He defended the necessity of the operation, and said while chronic peritonitis was a counter-indication for an operation, yet in one case an operation had been necessary for a cure. He also described fully the reflex neuralgia of Emmett, which had thrown discredit upon the operation. The agency of lacerations in producing retroflexion, with its resulting evils, was also discussed.

Essays were expected from Drs. Woodruff and Cressy, but they were unavoidably absent, the one on account of a death in his family, and the other on account of the serious illness of his brother.

DR. WILLIAM C. BURKE, Jr., of South Norwalk, read an interesting paper on "Laceration of the Perineum," and other voluntary papers were read by title, and referred to the Committee on Publication.

The Society then adjourned for the annual dinner at the United States Hotel, which was enjoyed by all, as such social occasions are by physicians fully as much as by any other class of men.

## TWENTY-NINTH ANNUAL SESSION OF THE IOWA STATE MEDICAL SOCIETY.

*Held at Dubuque, May 26th and 27th.*

(Special Report for THE MEDICAL RECORD.)

THE meeting opened at 10 A.M., with about seventy delegates present, DR. S. B. CHARE, of Osage, President, in the chair. An address of welcome was delivered by DR. BELDEN and responded to by DR. WILLIAMSON, on behalf of the Society. Dr. Williamson took occasion to refer to Dubuque as one of the oldest cities in the State, and the first to organize churches, courts of justice, and newspapers.

Various reports were then read, and committees appointed.

At the afternoon session DR. S. B. CHASE, the President, delivered the annual address. He spoke of the contributions to science that were now more than ever being made by medical men. He referred to a criticism of the RECORD upon the "transactions" of the society at the previous meeting.

The criticism ran:

"This volume has some peculiar features, which lend considerable value to what, on the whole, is rather commonplace. . . . There are eighteen papers, and, as representing the work of the society for two years, they do not make a rich display." "Here is," said the speaker, "a literary trout for which we were not angling. Deeply wounded by it, and smarting under its pungent sting, a fellow-contributor writes me: 'I have not the conscience and courage to say that the volume merits a more favorable opinion; and this is why it hurts.'"

The President then asked if it were not possible for the medical men of the State to do better work, and urged them to attempt it more earnestly.

The orator spoke of the act of the Legislature establishing a State Board of Health as indicating progress. The National Board of Health, he thought, had not fully realized the expectations of its friends, especially considering the amount of money furnished to it. The American Public Health Association was doing commendable work, especially in urging the importance of putting education on a more physiological and rational basis. The question whether pneumonia is not an infectious disease, and sometimes epidemic in character, was touched upon, and its great prevalence in Iowa during the past winter referred to. The importance of comparative pathology, the recent studies in the pollution of soils and drinking-water, winter cholera, the best mode of disposing of the dead, the relations of the druggist and physician, the care of the insane, and the importance of collecting vital statistics were the remaining topics discussed.

At the close of the address a paper on "Color-Blindness," by DR. W. CROUSE, of Waterloo, was read. The paper was largely historical and illustrative. The author quoted Dr. Holmes' verse:

> "Why should we look one common faith to find,
> Where one in every score is color-blind?
> If here on earth they know not red from green,
> Will they see better into things unseen?"

Dr. Crouse had examined five hundred men, using the worsted test, and had found about the usual per cent. of affected persons. He urged the importance of legislation on the subject.

DR. ARCHIBALD, superintendent of an institution for training the feeble-minded, said that about two-thirds of this class were color-blind.

DR. HAZEN and others discussed the subject.

The evening session was postponed in order that the delegates might take a ride on the river.

On the second day one of the first things done was to table a petition from the Woman's Temperance Union, asking that the society protest, by resolution or otherwise, against the use of intoxicating liquors.

The committee on the President's address reported, recommending the appointment of a committee to consider and report at the next meeting of the society upon the expediency of discontinuing the publication of "Transactions" until some plan can be devised to improve their character.

DR. ANGEAR, of Fort Madison, made some remarks on microscopy and microscopic specimens. He said he had not committed his remarks to writing, for want of time, and inasmuch as the subject he was discussing was yet in its infancy, it would be inappropriate to publish a paper on it. He urged the importance of a more extended use of the instrument by medical men.

DR. BENJAMIN MCCLUER read a paper on "Injuries of the Orbital Regions;" DR. STAPLES a paper on "Drainage in Empyema," with cases; DR. WARNE a paper on "The Anti-Tonic Properties of Quinine."

In the afternoon a number of new members were elected.

A report of the work on the State Board of Health was made by its chairman, DR. ROBERTSON.

A paper on "Scarlatina" was read by Miss J. S. Braunworth, M.D.

The following resolution regarding medical education was adopted:

*Resolved*, That this society, desiring an improvement in the standard medical education to correspond with that of surrounding States, for their own protection, and for the good of the general public, request every member to use his influence with the members of the General Assembly who may be chosen at the coming election to secure the legislation necessary to that end.

Dr. Watson, of Dubuque, had prepared a paper on

DISEASES INCIDENT TO MILITARY PRISONS,

but it was so long that he concluded not to read it, so much time having been already spent. He severely scored the society on their indisposition and apparent lack of interest in the papers read belore the society, and said there was but little incentive offered to members to prepare papers.

Dr. Ranney, Superintendent of the Insane Asylum at Mt. Pleasant, read a report upon the condition of the insane of the State, which excited much interest and discussion. It appears that many of the insane are confined in county poor-houses. There were not proper accommodations for more than one-fourth the insane. The Committee on Insanity was continued, and authorized to report at the meeting next year.

The following officers were elected: *President*, T. J. Caldwell, M.D.; *First Vice-President*, D. Scofield, M.D.; *Second Vice-President*, M. H. Waples, M.D.; *Secretary*, J. F. Kennedy, M.D.; *Assistant Secretary*, L. C. Swift; *Treasurer*, G. R. Skinner.

The society then adjourned.

A number of elegant entertainments were given to the society in the evening by the ladies of the city.

## Correspondence.

### THE CONSUMPTION OF QUININE AND THE CINCHONA ALKALOIDS.

To the Editor of The Medical Record.

Dear Sir: Your editorial of the 18th inst. in the Record, headed, "Some Facts about Quinine," contains so many statements at variance with widely known facts, that I feel compelled to furnish a corrected statement, which can be relied upon. It is asserted "that of the four chief alkaloids—quinine, quinidia, cinchonia, and cinchonidia—none are wasted by the manufacturers," etc. "It is undoubtedly the case that in nine cases out of ten, persons who go to a drug-store and ask for quinine do not get it, but get quinidia or cinchonidia, or even cinchonia, in its place."

The total yearly product of quinine manufactured in all the world was carefully computed, in 1880, at about 3,500,000 ounces, or very nearly 220,000 pounds avoirdupois, as is correctly stated in the editorial; and the yield of quinidia, which stands next in repute in medicinal value, is very limited—has been computed at not over 175,000 ounces; while of cinchonidia, ranking next in value in medicine, the yield has been computed at 875,000 ounces. The yield of cinchonia has never been computed, because it is so cheap, but a few cents per ounce, and in small demand that it hardly pays to separate, and is apt to lay about as waste in quantity in every manufacturing establishment where the higher alkaloids are separated.

This waste cinchonia waits demand from the East Indies, where from its cheapness it is largely used in the form of a muriate, or more often it passes into chinoidine with other residuums of cinchona which are not crystallizable.

The consumption of cinchona salts in the United States has been computed at—of quinine, 1,000,000 ounces; of quinidia, 50,000 ounces; of cinchonidia, 500,000 ounces, which last is mostly consumed in the North-western States. Very little cinchonidia is sold in the Eastern or Southern States, and particularly in our large cities, where the consumption of quinine is at least twenty ounces to one of cinchonidia. And the statement that no doubt "that in nine cases out of ten, persons who go to a drug-store for quinine do not get it," is a very sweeping one, at variance with both facts and figures, and one that does great injustice to a very respectable profession that is most intimately connected with medicine.

With great respect, I am yours truly,

D. C. Robbins.

[We publish, with pleasure, the opinions of our esteemed correspondent regarding the relative therapeutic value of the articles mentioned in the editorial, notwithstanding they differ from our own; but we are yet unwilling to admit, from any proofs to the contrary, that our "statements are at variance with widely known facts." Neither can we plead guilty of injustice to the druggists referred to in our article, inasmuch as they not only acknowledge that quinine is not given when called for without a prescription, but attempt to justify their conduct in making a substitution.—Ed.]

## ARMY NEWS.

*Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from June 19, 1881, to June 25, 1881.*

Hartsuff, A., Major and Surgeon. To proceed to the Cantonment on the Uncompahgre, Col., and report for duty to Col. Mackenzie, 4th Cavalry, commanding. S. O. 113, Department of the Missouri, June 8, 1881.

Middleton, J. V. D., Major and Surgeon. Having reported in person, is assigned to duty at Fort Hays, Kan., relieving Asst. Surgeon Munn. S. O. 122, Department of the Missouri, June 21, 1881.

Gardner, W. H., Capt. and Asst. Surgeon. Granted leave of absence for four months on surgeon's certificate of disability. S. O. 138, A. G. O., June 18, 1881.

Munn, C. E., Capt. and Asst. Surgeon. When relieved by Surgeon Middleton to proceed to Fort Bayard, New Mexico, and report to the commanding officer for duty. S. O. 122, C. S., Department of the Missouri.

De Witt, C., Capt. and Asst. Surgeon. Granted leave of absence for four months. S. O. 137, A. G. O., June 17, 1881.

Torney, G. H., Capt. and Asst. Surgeon. Granted leave of absence for one month, with permission to apply for an extension of one month, to take effect when relieved by Asst. Surgeon A. W. Taylor. S. O. 122, Department of the Missouri, June 21, 1881.

Taylor, A. W. First Lieut. and Asst. Surgeon. To proceed from Fort Supply, Ind. Ter., to Fort Lyon, Col., and report to the commanding officer for temporary duty. S. O. 122, C. S., Department of the Missouri.

# Medical Items and News.

CONTAGIOUS DISEASES — WEEKLY STATEMENT. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending June 25, 1881.

| Week Ending | Typhus Fever. | Typhoid Fever. | Scarlet Fever. | Cerebro spinal Meningitis. | Measles. | Diphtheria. | Small-pox. | Yellow Fever. |
|---|---|---|---|---|---|---|---|---|
| June 18, 1881. | 16 | 10 | 103 | 14 | 93 | 100 | 48 | 0 |
| June 25, 1881. | 16 | 5 | 121 | 9 | 85 | 117 | 38 | 0 |

THE LATE DR. DAVID P. SMITH, OF NEW HAVEN, CONN.—A memorial address was delivered by President Porter, of Yale College, on Monday evening, June 27th, commemorative of the life of Dr. David P. Smith, late Professor of Surgery in the medical department of Yale College.

PRESENTATION TO DR. GEORGE F. SHRADY.—At the meeting of the New York Pathological Society, held June 22, 1881, the presentation of an elegant silver pitcher and salver was made to Dr. Geo. F. Shrady by the members of the society, in consideration of his long services as secretary.

DR. A. JACOBI, in making the presentation in behalf of the society, remarked as follows:

In former times I was not a stranger here. I have been a member of this society these twenty odd years, and have a long time ago enjoyed the greatest honor this society can bestow on any fellow. To-night I am the recipient of another unexpected honor, which, I assure you, as I appreciate it very much indeed will prove an encouragement for resuming in future my former relations to this important and instructive body. I have been distinguished by the committee in charge by permission to address you, Mr. President, in regard to a fellow-member whom we all know, esteem, and honor.

For twenty-two years Dr. George F. Shrady has been the secretary of this society. He has filled that place as only he could have done it. His reports have been careful, full, and correct. They have been a guide to the members, and a source of instruction to medical men in general. They have been read and studied over the United States and abroad, and they have contributed a great deal to fostering the love of pathological anatomy, and its daily increasing study among the profession. That he, while being our secretary for almost a generation, succeeded also in obtaining an extensive literary reputation, that, furthermore, by peculiar characteristics of his own, he endeared himself to a large circle of friends and admirers—all this it is not my domain to-night to allude to. What I am directed to express to Dr. Shrady, in simple and plain words, is the appreciation of his long and valuable services by the members of this society.

We know quite well that he meant to perform his duty only. Neither he nor any sterling man works for thanks or appreciation expressed in any way. The best intellectual and social labors are always performed by those who work from inner necessity only. But when one man works industriously, honestly, and usefully in the service of society, country, or scientific body, it is both natural and becoming, it is good instinct and wise principle on the part of those who derived benefit from his personal efforts to prove themselves worthy of them by word or action.

Thus, Dr. Shrady, I have the great honor of offering you, in the name of the members of this society, this small token of grateful remembrance of your great services. May you live long to enjoy both it and the spirit of appreciating friendship which dictated the gift.

DR. SHRADY, in accepting the beautiful testimonial, was at a loss to thank the society in fitting words. Being at the disadvantage of one who had been taken by surprise, he trusted that he would be excused from any attempt to respond to the eloquent and touching address of his friend Dr. Jacobi. Indeed, with the best of preparation on his part, he doubted if Dr. Jacobi would have given him any opportunity for saying anything more, either of the subject so gracefully treated, or of the individual so pointedly referred to. He could, however, thank the members from his heart. While this was, perhaps, the least he could do, he nevertheless could do no more. The gift had a peculiar value to him, and he trusted that he would ever properly appreciate the sincere motives which had actuated its bestowal.

The pitcher and salver are of elegant design, chaste finish, and bear a suitable inscription with monogram, in Tiffany's best style.

THE STATE BOARD OF HEALTH held a special meeting at the New Capitol on June 23d, and considered the duties imposed on them by recent legislation. There were present: Dr. E. M. Moore, Dr. William M. Smith, Prof. Charles F. Chandler, the Hon. Erastus Brooks, Dr. J. Savage Delavan, Dr. G. S. Hunt, and Dr. Elisha Harris. The act to prevent the adulteration of food and drugs, chapter 407, was discussed at length and the responsibilities of the board in relation thereto were stated in detail. It was resolved to engage competent chemists for the purpose of analyzing samples submitted. Measures were also taken to co-operate with all interested in the sale of pure food and drugs. The alarming prevalence of small-pox and the danger to the State from exposure to this contagion through immigration received a large share of attention, and suitable repressive measures were adopted. Petitions from numerous towns and villages asking the board for the removal of malarial nuisances were submitted, and appropriate action taken.

NEW YORK ACADEMY OF MEDICINE.—At a stated meeting, held June 2, 1881, the librarian acknowledged the receipt of two hundred and sixty-two bound volumes, and several unbound volumes and pamphlets. Of the bound volumes, two hundred and fifty-two, together with a microscope, were presented by the family of the late Dr. Charles M. Allin, as a permanent memorial. A vote of thanks was returned to the donors.

On motion Dr. John G. Adams, Corresponding Secretary, and Dr. H. P. Farnham, Treasurer, were made delegates to the International Medical Congress.

MASSACHUSETTS GENERAL HOSPITAL.—A prize is offered of $400 by the medical staff of the Massachusetts General Hospital for the best essay on chronic Bright's disease.

HEPATIC ABSCESS OPENED WITH TROCHAR AND CANULA.—Dr. W. R. Snook, of Oakwood, O., writes us an account of a case in which a hepatic abscess was successfully treated by the use of the trochar and

canula. The patient, a young man, aged twenty-nine years, had for a year or two suffered from attacks of what had been thought to be chills and fever, or bilious fever. He finally developed a hectic fever with pain and enlargement in the right hypochondrium. His condition rapidly grew worse, until at last, Dr. Day, who had been treating the patient, called in our correspondent in consultation. Dr. Snooks found the liver greatly enlarged and very tender, the patient had fever and night-sweats. The conjunctiva was yellow, the tongue heavily coated, and there was general anasarca. Dr. S. diagnosed the case as one of suppurative hepatitis with abscess not yet fully formed. A few weeks later he was called in again and found the patient much worse. The pulse was 140, tongue brown, breath septic and condition generally very serious. The liver was very much enlarged, especially the left lobe, in which we judge, from Dr. S.'s description, the abscess was located. Not having an aspirator, a trochar and canula were thrust into the liver and forty-three ounces of pus were discharged. The cavity was subsequently washed out with carbolized water, the canula being kept in for a few days until adhesions had formed. The patient at once began to improve and continued to do so, with only one relapse, until finally cured. Dr. Snooks attributes his success largely to his using a uterine syringe, with which he washed out the cavity thoroughly, draining out pus which would have run out of itself.

Historical.—The first regular medical journal ever published was "Les Nouvelles Découvertes sur toutes les parties de la Médecine," and appeared in Paris in 1679.

The first medical library in America was that of the Pennsylvania Hospital, established in 1762.

The first State medical society was that of New Jersey.

The first original medical work published in this country was entitled "Cases and Observations by the Medical Society of New Haven County, in the State of Connecticut, published in New Haven, 1788. —*Maryland Medical Journal.*

Pessary Made of Flesh.—Nussbaum proposes that a pessary be made by folding up the anterior wall of the vagina and securing it with mattress-needles.

The Chicago Faster, Griscom, was alleged to have gone thirty-one days without eating on June 27th. He had, during this time, lost thirty-four and three-quarter pounds. No especial symptoms have developed. His case is exciting but comparatively little attention.

Death of Christ.—The Rev. Professor Haughton recently delivered a sermon on the death of Christ, considered physiologically.

The Medical Law of California, compelling examinations and registration, has been declared unconstitutional. The decision, however, is to be appealed from.

Orchitis and Parotiditis.—Dr. D. H. Webster, of Austin, Mo., writes: "My experience with parotiditis the past winter and spring is confirmatory of that given by Dr. Miller, of Kansas, in the Medical Record, April 30th, and Dr. Bramlette, of Texas, in same journal of June 4th. At least two-thirds of my cases, fifteen or twenty, resulted in metastasis, especially so in the males—only one in a female. Generally the testes, one or both, were much swollen and painful, continuing a regular course of a week to ten days, and, as Dr. Bramlette stated, 'notwithstanding all the precautions, it occurred just as often.' And again during the month of April I was called to see a reported case of measles, and although I had never met with a similar case, my diagnosis was 'German measles,' or 'rubeola,' as given by Dr. Thomas in Vol. II. Ziemssen's 'Cyclopædia.' Three cases occurred in the family of six members, all of whom had had the measles but a few years previous. The infection was brought into the family by a visiting friend from another part of the State. The patients were all adults. One child, who never had the measles, was exposed to this disease, but escaped. The symptoms were well marked: coryza and suffusion of eyes, followed by a profuse eruption, which, in appearance, resembled measles, except the blush was more scarlet. No serious results followed, nor did the disease spread beyond the family."

Dr. M. S. Leslie, of Lexington, Ky., also writes that an epidemic has, within the past few weeks, been under his observation. College students were the sufferers. About one-third of the cases of parotiditis were accompanied by orchitis. There were other cases in which the only local expression of the blood-poison usually producing parotiditis was to be found in the testicle. All recovered readily.

Petroleum in Phthisis.—Dr. M. Milton, of Bradford, Pa., writes: The more we study the statistics of this subject, the more evident does it appear that it is the most fatal of all diseases of human life. It is generally accepted that out of every one thousand deaths, from one hundred and fifty to one hundred and eighty are due to this disease, but this statement gives but a feeble idea of its terrible fatality. It has been ascertained, beyond reasonable doubt, that nearly one-third of all the deaths occurring among adult males, in New York city, are caused by consumption; it has also been ascertained that youth is the harvest-time of consumption, and that liability to it decreases with advancing years is an error—in fact, just the reverse is true. In proportion to the number living, consumption is a more frequent cause of death between sixty and seventy than between twenty and thirty years.

It is not quite certain that there is any marked distinction between the phthisis of the aged and the youthful. Hemorrhage is considered a prodromic symptom of very serious import: it is considered by insurance companies the most valuable sign to the examiner of the consumptive diathesis; it is not considered safe to take a risk for life insurance until ten years have passed after its occurrence. It is stated that primary tuberculosis of the lungs is not only possible, but of very frequent occurrence.

The above are the conclusions deducted from The Mortuary Experience of the Mutual Life Insurance Company of New York. We recognize three stages of the disease—deposition, softening, and excavation. It is questionable whether any material advancement in the treatment has been suggested of late. The contest in those cases is narrowed down to a fight against particular symptoms as they arise, seems to be the ordinary verdict. This is not at all an encouraging outlook.

From statements and observations made, I am inclined to the opinion that in our great staple, crude petroleum oil, we have no mean means of alleviating or arresting the progress of this fatal malady. Dr. Bryan Blacque, of Paris, and Dr. M. Griffith, of Bradford, Pa., report a large percentage of cures by the

various preparations of the crude oil. I find the medicinal oil pleasant and palatable, and I think if the statements of these gentlemen are confirmed by future trials, it will become one of our most valuable medicines.

That consumption seldom originates in the oil country is a well-known fact to all observers.

DEATHS FROM ETHER.—Dr. John B. Roberts, in a paper read before the Philadelphia County Medical Society, relates the histories of persons who died from the effects of ether. From a study of these cases he is inclined to think that the failure of respiration is not always the first sign of danger, but that the heart may begin to fail seriously while respiration continues active. He thinks that the pulse ought to be watched more closely than it usually is, that in some cases the urine ought to be examined as well as the heart and lungs, and that the person who is entrusted with giving the ether should be the most skilful of all the assistants.

Dr. Roberts has collected twenty cases of death from ether that have been reported since January, 1872.

A DEATH FROM VAGINAL INJECTION is reported by Dr. J. M. Dennison. The patient was stooping over a basin and injecting an infusion of oak bark, using an ordinary Davidson syringe. She suddenly experienced violent pains and cramps, evidences of peritonitis set in, and she died in five days.—*Louisville Medical News.*

A PERVERTED TASTE IN THE FOWL.—It appears that drugs do not enslave man alone. According to Dr. F. A. Seymour, in the *Louisville Medical News*, the hen, of California at least, is very fond of getting intoxicated on belladonna berries. The objection to this is that the berries having first intoxicated, finally kills the injudicious fowl. As emesis cannot be produced and antidotes are insufficient, there is but one method of treatment, which is to open the crop and remove its contents. This has been done very successfully, and a hen supposed to be moribund entirely resuscitated.

CALOMEL AND SODA.—Mr. Hoglan has shown that when calomel and sodium bicarbonate are mixed and triturated, evidence of the presence of corrosive sublimate is obtained in twenty-four hours. The same authority finds that calomel is slowly converted at the temperature of the human body into corrosive sublimate. Chloride of sodium and hydrochloric acid favor this transformation.

These conclusions are at variance with those of Verne, but corroborate those of Herr Slop.

WOMEN DOCTORS OF PHILADELPHIA.—Two lady physicians have recently been elected members of the Northern Medical Society of Philadelphia; and it is said that one has been proposed for membership in the Philadelphia County Medical Society. Our recent report mentioned that several women physicians were admitted as delegates to the Medical Society of the State of Pennsylvania.

THE WISCONSIN STATE MEDICAL SOCIETY held its annual meeting at Milwaukee, on June 7th and 8th, the president, Dr. Ira Manley, Jr., in the chair. The meeting was a large and successful one.

THE EXPANSION OF THE HOMŒOPATHIC MIND is well illustrated by the course of our esteemed contemporary, the *New York Medical (née Homœopathic) Times.* Since it dropped the title "homœopathic" it has been studying to exclude that objectionable word altogether from its columns. And it has even been referring to the American Institute of Homœopathy as the "Institute," adding, of course, the annual announcement that it is the "oldest national medical organization in the country." The *Times* still thinks us trammelled by the absurd traditions of the past, and we think the *Times* and its contributors ought to learn pathology. But progress is affecting everything. It has affected our esteemed contemporary, and we will yet see it print reports of our Pathological Society. The editors announce that they will practise hereafter as regular physicians. The rule (not law) of similars will be used in selecting remedies only when such rule seems advisable. The homœopathic materia medica, we are told, is largely an imaginative work; it contains a frightful bulk of non-essentials and unproved statements. They believe in no medical dogmas, and assert that medical knowledge and skill are the only tests of the physician. Homœopathy, as a distinct school of medicine, has ceased to exist among educated men. This is what the *Times* says, or means, and we can say no more.

THE IMPURITIES OF CROTON WATER.—At a recent meeting of the New York Microscopical Society, Mr. J. D. Hyatt spoke of the disagreeable odors that developed in Croton and other waters in the spring. He said that in early spring the beds of all the mountain brooks which feed the lakes become covered with a gelatinous layer of minute vegetable organisms, the layer being sometimes a quarter of an inch thick. A very little of this jelly mass placed in a vessel of water will soon impart to it the same odor that is observed now in Croton. The amount of organic matter causing this odor is very small by the time the water has reached this city, and it cannot be detected by the microscope. It may be presumed that there is nothing dangerous in the impurity. The observations of Mr. Hyatt were confirmed by Mr. Van Brunt.

PREVENTING ADULTERATION.—A bill to prevent fraud in the adulteration of sugar, syrup, molasses, etc., has passed the State Senate.

SANITARY LEGISLATION IN WISCONSIN.—The Legislature of Wisconsin has enacted a law to prevent the spread of contagious diseases. It forbids the transportation of any dead body within the State borders, unless accompanied by a certificate showing cause of death. It also inflicts a penalty upon physicians in case they conceal any case of infectious disease; and provides penalties for persons suffering under infectious disease who knowingly expose themselves.

ACUTE ALCOHOLISM SIMULATING HYDROPHOBIA.—In view of the frequent appearance of reported cases of hydrophobia, many of which seem to be somewhat doubtful, Dr. W. B. Hazard publishes in the *St. Louis Clinical Record* a case of the above character. The patient suffered for several days from pharyngeal and laryngeal spasms, and had not been able to swallow any liquids. He was at first rational and had no tremor. In a short time, however, furious mania developed, which ended in chonic convulsions and death. Post-mortem showed no characteristic changes anywhere. His previous history showed him to have been a hard and constant drinker.

# Original Communications.

## JARVIS' OPERATION; ITS RELATION TO NASAL CATARRH.

By F. H. BOSWORTH, M.D.,

LECTURER ON DISEASES OF THE THROAT IN THE BELLEVUE HOSPITAL MEDICAL COLLEGE, NEW YORK.

In a paper read before the American Laryngological Association in New Nork, on June 2, 1880, and published in the *Archives of Laryngology* for April 1, 1881, Dr. Wm. C. Jarvis, of this city, presented a most ingenious wire-snare ecraseur, devised for the purpose of removing the hypertrophied mass which presents so prominently at the posterior termination of the lower turbinated bone in hypertrophic nasal catarrh; together with the indications for the operation. To Dr. Jarvis is due the credit, I believe, of first calling attention to this feature of nasal catarrh, and also of presenting an instrument for dealing with it which fulfils every requirement in a most admirable manner. It should be stated, however, that Bigelow,* in demonstrating the erectile tissue which he finds upon the turbinated bones, calls attention to the fact that when this tissue is artificially distended by a blow-pipe, "a pouch-like process projects from the rear of the bone, increasing its length." Since this paper was published I have performed Jarvis' operation in a very large number of cases, and with such unvaryingly favorable, and oftentimes brilliant results, that I am induced to call renewed attention to the procedure, in part because I regard it as one of the most promising advances that has been made in the treatment of this obstinate disease, but mainly because in many of the details of the operation, its indications and results, I differ from its originator.

The following cases are selected somewhat at random from my note-book, as illustrating many of the points that I desire to make prominent, and are therefore related somewhat in detail.

Case I.—Miss W—— consulted me on August 17, 1880, with the following history: In 1874 she commenced training her voice, which had been pronounced an unusually promising one. Her study progressed favorably, and in the fall of 1879 she accepted the position of soprano in one of our church choirs. During this time she was conscious of a moderate nasal catarrh, but it does not seem to have caused any marked impairment of voice, until about two months after she commenced her engagement, when she noticed that her voice was becoming weak, with a decided loss of brilliancy in the upper notes, particularly in *staccato* movements. There was also a weakness in all the purely head tones, which seemed to increase. She had previously possessed a long respiration, but to control the voice was now obliged to breathe frequently. After singing any length of time she experienced a sense of fatigue in her throat and chest, hitherto unknown. In February, 1881, she caught a severe cold, which developed in an attack of acute follicular tonsillitis, from which she recovered at the end of three weeks. This attack left her voice in a still more impaired state, so much so that she was compelled to cancel her engagement. Rest and mountain air were advised by her physician and tried, but without avail, and her voice seemed irretrievably lost.

On August 17, 1880, she came under my care, when I found, on examination, a moderate hyperæmia of the larynx; a chronic catarrh of the pharynx, with moderate enlargement of the glands at the pharyngeal vault; and hypertrophy of the nasal mucous membrane, involving each middle turbinated bone, and more markedly the lower, at the posterior termination of which were seen the characteristic masses. These masses, however, were small, about the size of a small raspberry, and with my experience at that time the indications for an operation did not seem sufficient. She was treated for ten weeks by applications of acetic acid to the turbinated bones, together with astringent sprays to the larynx and pharynx. Under this plan she seemed to recover, and on November 1st was discharged apparently well. In April, 1881, however, she returned to me, a typical illustration of the oftentimes ephemeral character of many of our cures of catarrh accomplished by local and superficial remedies, for in this case the treatment had really consisted in local applications which were superficial to an extent in their action. Her old symptoms had all returned. I now concluded to perform Jarvis' operation. On April 9th I operated on one side, consuming an hour and a half in the procedure. There was slight hemorrhage at the time, and after waiting a half hour she left the office and went shopping. While on Broadway, about two hours after the operation, a hemorrhage set in, but not very excessive; so, with the bleeding going on, she made her way home and sent for her physician. The bleeding proved obstinate, and persisted intermittingly for thirty-six hours. The result was exceeding prostration, bringing on an attack of tonsillitis, from which she recovered at the end of three weeks. I saw her again after her recovery on May 2d, when she presented with a relaxed throat and a train of discouraging symptoms. I proceeded, however, to complete the operation on the other side. I now placed the wire loop *in situ*, and drawing it tight I allowed it to remain, and giving an occasional slight turn to the screw, occupied three hours in the procedure, my patient sitting in an easy chair behind a screen in my office and reading the morning paper while the snare projected from the nose. There was no pain and but trifling discomfort.

At the end of three hours the loop was drawn home and the instrument was withdrawn. There was scarcely a drop of blood, and the severed mass was left in the nose. I directed her to refrain from blowing the nose for the day and to see me the next day, when she came, bringing the tumor, which had dropped out during the same evening, and reported that there had been absolutely no bleeding or any unpleasant symptoms whatever from the operation.

The patient was seen twice each week for a few weeks, and was dismissed in early June entirely well, both from rhinoscopic examination and clinical symptoms. Writing to me since, she reports that she is now "convinced that the compass and quality of her voice are fully restored," and she is singing again with her accustomed ease, and that the *staccato* movements are accomplished with a clearness and brilliancy which she has not possessed for years. She very graphically describes her former efforts as similar to those of a violinist attempting to produce a brilliant and powerful tone with a padding on the bridge or sounding board of his violin.

It may be said of this case that she was cured once before, and that the trouble may recur, as formerly. There lies this difference, that the symptoms were removed only in the former case, while, by the operation, the prominent morbid condition which

* Boston Med. and Surg. Journal, April 29, 1875.

gave rise to the symptoms has been removed. I believe this to be a permanent cure, for, as I shall notice further on, the operation on the lower turbinated bone exercises a positive action on the erectile tissue of the middle bone. I have reported the above case at length, and with an amount of detail which may seem tedious, but to me it was an exceedingly instructive case as bearing on many points.

The human larynx is the most perfect musical instrument that has ever been created, not only technically, but in its flexibility, its capacity of expression, and above all other considerations, in its power of conferring happiness. The physician's art loses nothing of dignity, therefore, if, going beyond the mere practice of health-restoring, the study is added of the development, culture, and preservation of this most perfect function of the larynx—the singing voice. The sounding-board function, as it were, of the pharynx and nasal cavities is one whose importance in vocalization cannot be overestimated. The first impulse of the vocal waves is upon the pharyngeal vault, from which they are reflected into the nasal cavities. This does not apply so prominently to the chest-notes, but is of exceeding import in regard to the head-notes. Now, if the nasal lining membrane be the seat of a chronic inflammation resulting in hypertrophy, this sounding-board function is necessarily to a greater or less extent impaired. The singer, unconsciously perhaps, by an exaggerated effort of the respiratory muscles, endeavors to compensate for this deficiency by driving a more powerful current of air through the glottis. The result is obvious: the chest muscles become soon weary, the vocal muscles become tired by the increased tension rendered necessary, and a laryngeal hyperæmia ensues, involving the danger of a laryngeal catarrh and permanent impairment of voice. The same line of reasoning applies with even greater force to the existence of the thickened masses on the lower turbinated bones posteriorly, lying as they do in a position to shut off the nasal cavities from the pharynx, and to completely interrupt the vocal waves in the head-register.

Another point, I think, is well illustrated in the above case, and that is the influence of nasal catarrh upon the air-passages below. I have always, in my teaching, laid especial emphasis on the fact that, in the very large majority of instances, a laryngeal catarrh is the result of a nasal catarrh. In singers, this result is caused often in the manner above alluded to. It may occur also by mouth breathing caused by nasal obstruction; by the irritation of the discharges making their way from the nose into the larynx; and finally, by a direct extension of the catarrhal process.

Case II.—Mrs. W—— came under my care September 22, 1880, with a history of a throat catarrh of six years' duration. Her main annoyance has been from the accumulation of thick tenacious mucus in the fauces, which she could only dislodge by violent effort. She was liable to take cold easily, and her recurrent attacks seemed to attack regions lower down in the air-passages each time. She had been under the care of a number of physicians, and had been subjected to numerous plans of treatment. An examination revealed a chronic catarrh of the pharynx and larynx, with thickening of the nasal lining as seen anteriorly. A rhinoscopic examination was rendered impossible by an exceedingly irritable throat. I treated her for three months with local astringents and gave marked relief, but failed to effect a permanent cure. During this time, the most patient effort failed in giving me a view of the posterior nares, and finally, in March, I determined to use the snare as a searcher, and to test the existence of a posterior turbinated hypertrophy by it. The loop became engaged after one or two trials, and tightening it I slowly severed the mass, occupying an hour and a half. There was but slight hemorrhage at the time, and she left my office. Three hours afterward I called upon her and found that an hour after she left me her nose had commenced to bleed and had continued without cessation. I immediately plugged the nares from in front and arrested the bleeding. The plug was removed on the second day following, but hemorrhage recurred, and I plugged again, and allowed the plugs to remain until the fourth day. Ten days later I operated on the other nostril, and consumed three hours in severing the mass. The procedure was accomplished with no pain, discomfort, or hemorrhage, during the operation or subsequently. I saw the patient but twice afterward for treatment, when she was discharged cured. She reports to me a week ago that she was entirely free from any trouble with the throat, and that the operation had accomplished for her what all her previous treatment had failed to do. It should be also stated that this lady was a fine reader, but had been compelled to abandon it on account of her voice becoming weak and husky on slight exercise. She reports this difficulty entirely removed.

Case III.—G. W—— came to me from Northern New York, on March 30, 1881, to consult me on account of a nasal catarrh of seven years' standing. He had used douches and snuffs, and various devices for its relief, but without avail. He was also the possessor of a fine tenor voice, but for two years had not been able to sing, his voice, as he expressed it, was entirely gone. He complains of a constant dropping in his throat, which is the source of great annoyance. An examination revealed a chronic catarrh of the larynx and pharynx, with moderate hypertrophy of the membrane covering the middle and lower turbinated bones, with masses on the latter about half filling the posterior choannæ. I advised an operation and with his assent, immediately proceeded to remove one mass with the snare. I consumed an hour and a half in the procedure, and there was no hemorrhage. Four days later I operated on the other side, consuming the same time. Violent hemorrhage immediately set in, which required plugging. The plugs were allowed to remain forty-eight hours. I treated him subsequently for three weeks with local astringents to overcome the moderate disease of the upper turbinated bones and the larynx, and finally discharged him cured.

This was a typical case of nasal catarrh, illustrating the effect of the disease in causing laryngitis, and also the fact which I believe to be true, that a large proportion of the excessive discharge in this disease has its source in these enlarged masses on the lower turbinated bones, and that in their removal we radically remove the disease itself. I might report a large number of cases whose results are in every way as flattering as those narrated, but I have already written at greater length than I intended. It remains to draw some general conclusions.

*The indications for the operation.*—In every case where there exists a mass that will engage the snare it is a morbid growth and should be removed. I believe that the indications for the operation are as prominent as those for the operation of tonsillotomy, and that the results to be obtained are quite as favorable in the one case as in the other.

*Hemorrhage.*—By far the most troublesome feature

of the operation is in the hemorrhage, and in some cases it seems very difficult to avoid it, for the cut surface not only extends through the congested blood-vessels of the mucous membrane, but also into the enlarged and dilated blood-spaces, which make up the erectile tissue which underlies the mucous membrane. As will be seen, the hemorrhage from this source is not only profuse, but is to an extent intractable, for it is not amenable to astringents or hemostatics. The only resource is to so accomplish the operation that the edges of the cut surface shall remain in apposition, or to plug. I have, in every case where it became necessary, succeeded in plugging from in front, thus avoiding the troublesome manipulation of Bellocq's canula, or other devices of the kind. Knowing the exact source of the bleeding, it is quite feasible to pass, successively, small pledgets of cotton through the nostril, back to the cut surface, where they can be wedged between the turbinated bone and the septum. It is not safe to remove the plugs in less than forty-eight hours. It is important to count the pledgets as they are introduced, as the knowledge is of value when it becomes necessary to remove them.

*The operation.*—Dr. Jarvis recommends the placing of the loop of the snare by means of the rhinoscopic mirror. I have in no instance found this necessary. In many cases it will be impossible. Dr. Jarvis calls attention to the fact, that, as this hypertrophy develops, it grows backward, projecting into the pharynx, and that thus there is formed a deep sulcus between the mass and the side of the pharyngeal wall. The existence of this sulcus renders the operation by the snare not only feasible, but extremely simple. It is the only point which can engage the loop of the snare. In a healthy nose there is nothing which will engage the loop. Hence it follows that nothing can be seized which should not be removed, and, further, that anything in the nasal cavity, which can be engaged by the loop, is a morbid growth and should be removed. There is, therefore, no danger of doing any damage to healthy structures. Furthermore, it is quite feasible to use the snare as a searcher, as was done in Case II.

It is the great advantage of Jarvis' instrument, that it is mounted with steel piano wire, which furnishes a loop which is so resisting that it can be easily manipulated. Furthermore, it possesses a bend, given it by the coil in which it comes, so that as it is projected from the instrument, the loop curves to one side. In operating, the proper-sized loop is adjusted to the instrument, and is then drawn into the canula until a small loop projects, which will pass through the nostril. This is then passed through the nares until it reaches the pharynx. The wire is now played into the canula, thus enlarging the loop in the pharynx. If, now, the instrument has been entered in such a way that when the wire loop emerges from the distal end of the canula it will bend around toward the turbinated bone, it will be seen that as it is slowly withdrawn the wire will fall over the tumor and into the sulcus between it and the wall of the pharynx. Holding the canula steadily in the left hand and turning the screw, and at the same time pressing the distal end of the canula firmly against the turbinated bone, the mass will be constricted. The screw should be now turned until the resistance is very great, when the patient should lie down and make himself as comfortable as possible. The passing of the instrument is unpleasant, but the irritation will soon pass away. The tightening of the loop is quite painful, but the pain lasts but a moment. The loop should be slowly tightened by, say a half turn of the screw every five or ten minutes, and at least two hours or, better still, three hours consumed by the operation. There are two objects accomplished by this; one is the avoidance of hemorrhage, and the other is the avoidance of an open cut surface. This latter I regard as important. The parts are drawn up by the loop much like the puckering string of a bag. If, now, they are held in this position for, say three hours, they become agglutinated together in such a way, that when they are cut through they remain in apposition and do not open out again. There is then avoided an open cut surface, which may occupy several days in healing, and during that time prove the seat of pain and irritation. That the parts are cut through will be known by the sudden cessation of resistance in turning the screw. The part should be kept quiet several hours after the operation and the nose should not be blown. If the severed mass does not come out on the instrument, it had best be left *in situ* until it drops into the pharynx, though it probably would not be well to leave it in during sleep.

*The results of the operation.*—These have been fairly brought out by the cases. They may be summed up as follows:

*First.*—The removal of a most serious obstacle to a full rich tone, especially of the head-notes in the singing voice.

*Second.*—The removal of a serious menace to the integrity of the singing voice.

*Third.*—The removal of a prominent feature of nasal stenosis, which sooner or later will develop a pharyngeal and laryngeal catarrh.

*Fourth.*—The removal of what is largely the source of excessive secretion in nasal catarrh.

*Fifth.*—I am convinced that the removal of the mass by the above method, cutting into the erectile tissue, diminishes the tension of the blood-spaces and affords relief to the mucous membrane beyond the seat of operation; and, still further, that the traction exercised in drawing the membrane into the loop of the snare, exercises a beneficial action in the whole length of the turbinated bone. I have certainly seen a puffy thickening of the mucous membrane anteriorly relieved by removal of the hypertrophied mass posteriorly.

26 West Forty-sixth Street.

## A SECOND SERIES OF STONE OPERATIONS.*

By A. VANDERVEER, M.D.,

Albany, N. Y.

In the *Archives of Clinical Surgery* for October, 1876, I presented a paper on the "Operation for Stone, with a Report of Cases." To that report I wish now to add other cases, some of which show so markedly the improvement that has taken place in the treatment of vesical calculus, an improvement mainly due to the efforts or Prof. Henry J. Bigelow.

Case I.—*Gun-shot wound of the bladder accompanied with fistulous tract; subsequent formation of vesical calculi.*—W. R——, American, thirty-five years of age, married, came under my care in the spring of 1873, giving the following history: As a private in a New York regiment he was wounded on the 30th of June, 1863, through the bladder. From that time on his life has been one of great suffering, and in his repeated efforts to obtain relief from pain, he has become a confirmed morphine eater. The

* Read at the meeting of the New York State Medical Society, February, 1881.

amount he has taken and is now taking is almost incredible. He is very much emaciated, has but little appetite, is passing his urine very frequently, mostly through the sinuses, and in every respect is a most pitiable object. A careful examination of his urine shows a large amount of albumen, considerable pus, but no casts. Giving him ether and sounding his bladder revealed the presence of stone. At different times since his wound was received he has passed from the urethra phosphatic concretions, and from the sinuses necrosed pieces of bone, small particles of lead, and portions of clothing, which I have shown you. He states that the ball was never found. I saw Mr. R—— occasionally during the summer of 1873, and though an earnest effort was made in various ways to improve his condition, yet his system never seemed sufficiently strong to undergo the operation of lithotomy.

He died October 26, 1873, and the following is the report of the autopsy: Post-mortem rigidity well marked. There was a bed-sore back of and below the trochanter major on the right side. Cicatrix and mouth of a fistula below Poupart's ligament on the right side, one-third of the way from the symphysis pubis. Body much emaciated. The course of the ball was just below Poupart's ligament, near the pubic symphysis on the right side, and passing through the horizontal ramus of the pubic bone, it entered the posterior portion of the bladder, passed out and through the tuberosity of the ischium, was then deflected upward, and finally lodged behind the trochanter major of the left femur, where it was found firmly encased in a fibrous covering. The bladder was divided into two parts by cicatricial tissue and fibrous bands apparently in the portion of the bladder through which the ball had passed. The anterior half of the bladder contained a large calculus, the posterior portion a smaller one. The calculi are soft and phosphatic in character. The fistulous tract on the right side connects with the bladder just in front of the opening of the right ureter by a smooth valvular orifice. The coats of the bladder were much thickened. The ureters were dilated so as to admit the passage of the little finger. The pelves of both kidneys were dilated and there was slight contraction of the parenchyma; general structure of the kidneys, however, was normal. Capsule not adherent, peeling off easily. Thoracic viscera healthy. Encephalon not examined.

Weight of large calculus, 405 grains (26.244 grammes); weight of small calculus, 132 grains (8.553 grammes); weight of ball, 480 grains (31.175 grammes).

Case II.—*Calculus in the inferior fundus of the bladder.*—Mr. G——, seventy-two years of age, married, very fleshy, and usually in good health. Dr. Snow and myself saw him for a few days previous to his death, June 10, 1876. He gave no marked symptoms aside from a desire to urinate often, and sounding the bladder failed to reveal stone. At the autopsy, the following condition was found: Body very fleshy. Pleural surfaces adherent on both sides, but more firmly on the right. Liver cirrhotic. The kidneys, buried in an immense bed of fat, were contracted and also covered with numerous cysts. The heart was in a condition of fatty degeneration. The bladder was contracted, and contained, in a sac-like depression, just back of the isthmus of the prostate gland, a small stone, weighing seventy-one grains (4.6 grammes), and made up principally of the phosphates. The prostate gland was much enlarged. This case, together with others, leads me to believe that many old gentlemen, who are suspected of having only hypertrophy of the prostate gland, also carry about with them partially encapsuled small vesical calculi. Had we discovered the stone previous to his death, his condition was such that an operation would hardly have been advisable, even by the Bigelow method.

Case III.—*Large calculus in a female; lithotrity and washing out of the fragments; recovery.*—Mrs. Y——, sixty-five years of age, married, and the mother of five children. Fifteen years ago she had an attack of renal colic, and at that time passed several small calculi, entirely recovering from the attack, however. Three years later she had another attack, and since that she has suffered with all the symptoms of a vesical stone, with chronic cystitis.

I first saw the patient with her family physician, Dr. Werner, of Cobleskill, N. Y., January 18, 1877. Dr. Werner had previously diagnosed vesical calculus. On sounding the bladder, it was evident there was a large stone present. For the past year she has been compelled to push it back with a silver female catheter, whenever she desired to urinate. A previous examination of the urine showed the kidneys to be healthy. The patient was operated upon, January 18, 1877. Using Teevan's lithotrite, the stone was crushed several times and the fragments washed out with Davidson's syringe. First, however, I dilated the urethra with Heath's urethral dilator, so that I could introduce the index finger of my right hand.

The operation lasted nearly an hour, the patient bearing the ether only fairly well. My first impression was to do a vaginal lithotomy, so well spoken of by Dr. J. Collins Warren, of Boston, but the patient was so very fleshy as to make it quite impossible to reach the parts. The stone was phosphatic in character, a distinct nucleus being found, which was probably a renal calculus. Some of the detritus was lost by overturning a basin of water containing it; that which was saved, however, weighed three hundred and twenty-eight grains (21.254 grammes).

During the afternoon following the operation the patient suffered from a severe pain in her back, and also vomited some. The vomiting, however, was soon controlled. Up to the evening hour there had been no sign of chill. On the morning of the next day, January 19th, she was feeling comfortable; her skin was moist, and her pulse 92. She controlled her urine quite well, although its voiding was attended with some smarting and burning. She slept well, and, indeed, passed quite an easy night. On the evening of the same day (January 19th), the patient was again seen by Dr. Werner. She had passed through the day very well; was able to retain her urine about an hour, at the end of which period she experienced a severe smarting and burning pain. At 8 P.M. the pulse was 100; skin still moist, and tongue coated. There was also increased thirst, and some distress at the stomach. No sign of a chill, however. She was given quinine and iron every three hours, and morphine at greater intervals. Flax-seed tea was also freely administered. On January 20th the patient continued comfortable, and slept well during the previous night. Her pulse was about 90, and there was less moisture of the skin. She was now able to retain her urine for an hour and a half. In washing out the bladder, however, she experienced much distress. The stomach was quite irritable, also, but altogether the symptoms were quite favorable. On January 21st, the patient complained of considerable gastric disturbance. She experienced great relief from an evacuation of the bowels, the first

movement obtained since the operation. There was still some thirst, though not so marked as heretofore. Pulse 92. She seemed to rest well, but complained of feeling tired. The washing of the bladder was on this day omitted.

January 23d.—She expressed herself as feeling better. Pulse 88. Another evacuation from the bowels was obtained, also the bladder was again washed out. The passing of her urine was now accomplished with less pain than previously. On the 24th the patient still continued comfortable. Pulse 84, skin natural, and the tongue, which had been much furred, was cleaning. Her appetite had also improved. Quinine was continued, also one-fourth grain morphine three or four times daily. Bladder was now washed out each day. The scalding and burning were much abated and the urine much less offensive than at first. The first two washings brought away several pieces of calculus; none have appeared since, however. On January 25th the patient was able to retain her urine for a period of three hours. She rested well during the night, but was at one time somewhat chilly, a condition due, however, to an exposure to a current of air. As she was immediately warmed nothing serious resulted. Her pulse was now 80, her appetite improving, thirst much less urgent, and all her symptoms, indeed, were quite favorable.

January 26th.—The patient had slept well during the night and was still, at 10.30 A.M., resting nicely. Pulse 85, skin natural, and the appetite continuing to improve. The quinine disagreeing, it was now discontinued. After washing out the bladder another quite large piece of calculus was passed, so large, in fact, as to cause much pain as it was being discharged.

On January 27th the patient reported the previous night as decidedly the most restful she had had, and she had been able, also, to retain her urine for the period of ten hours. The pulse was 80, tongue continuing to clean, skin quite natural, appetite increasing, the gastric irritation mostly allayed, and the general appearance much improved.

Mrs. Y—— made a good recovery and was in perfect health when last heard from a few months since.

CASE IV.—*Synoptical history; renal colic; stricture of the urethra; calculus lodged behind the stricture; internal urethrotomy; removal of stone; recovery.*—Mr. C——, aged thirty-six, by occupation a wood-cutter in the North Woods, was admitted to St. Peter's Hospital, December, 1876. History: Twelve years ago he contracted gonorrhœa and was a long time in recovering from it. Nearly three years ago he had an attack of renal colic connected with the left kidney, and soon after found that he had increased difficulty in passing urine, the stream at times being much reduced in size. About six months later he was able to feel a hard substance in the perineum, and from that time on he has had serious trouble in emptying his bladder. For the past few months he has been unable to work. An examination with bulbous bougies detected a stricture two inches down in the spongy portion of the urethra and another in the membranous portion, through which latter only a whalebone guide could be made to pass. As the guide passed the second stricture it revealed a calculus in either the membranous or prostatic portion of the urethra. The calculus could be felt from without also. An examination of his urine showed no organic disease of the kidneys. He was given five grains quinine three times daily, and ten minims tincture ferri mur. for two days, and on December 18th was put under the influence of ether. The stricture, two inches from the meatus, was divided by Otis' urethrotome, then a guide was passed through the lower stricture. On this was passed a Maisonneuve tunnelled instrument and the stricture cut. Thompson's long, slender urethral stone forceps were now passed easily down the urethra and this stone removed, oblong in shape, as you see, and measuring in its long diameter one inch, circumference three-fourths of an inch, and weighing forty-one grains (2.65 grammes). The stone is composed chiefly of oxalate of lime with a crust of the phosphate. This patient had one chill a few hours after the operation, but by aid of full doses of quinine and iron he went on to a perfect recovery. The strictures were treated by passing full-sized steel sounds twice a week. The bladder was afterward examined with Thompson's short-beaked searcher, but nothing was found. Previous to removing the stone it became necessary to incise the meatus slightly. The patient was discharged, cured, in March, 1877.

CASE V.—*Calculus in a girl; rapid dilatation of the urethra; removal of stone entire; recovery.*—July 21, 1879, I was requested by my friend, Dr. Barker, of this city, to see Miss W——, aged five years, who had been suffering nearly two years with bladder trouble. I found her in bed with her clothing wet, her mother stating that the little girl was passing her water constantly in great pain and that it was impossible to keep her dry. On examination of the bladder we could detect a stone. She was given two grains of quinine three times daily and an anodyne night and morning, and on July 23d we proceeded to operate. She was given chloroform, the urethra was quickly dilated with Heath's dilator, and with small stone forceps this calculus, weighing forty grains (2.592 grammes), was removed. It is composed of oxalate of lime, and, as you observe, is covered with numerous little spines, which must have caused much pain. Quinine was continued, also demulcent drinks, and I am informed by Dr. B. that the little patient went on to a rapid recovery.

CASE VI.—*Large urethral calculi removed by external perineal incision; recovery.*—Mr. A. F——, aged nineteen years, was admitted to the Albany Hospital, March 29, 1879, as a case of urethral stricture. The following was the history obtained: Ever since his third year the patient had been troubled with painful micturition, a burning, stinging sensation just after the act. He had also been compelled to get up during the night two or three times to pass urine. On examination it was found impossible to pass any instrument on the first trial, and as further attempts gave him great pain, it was decided best to wait, anæsthetize him, and make the examination a thorough one. The perineum was enlarged, as was also the inferior wall of the urethra along the lower half of its course. Hot applications were made to the parts and covered with oil silk. On the 5th of April the patient took, at 10 A.M., ten grains of quinine and at 12 M. was etherized. An exploration of the urethra revealed calculi. A grooved sound was then passed and an external perineal section performed, the incision being about one and a half inches in length. By aid of the sound, the fingers being introduced into the rectum, a large smooth calculus was expelled from the cut and was directly followed by a second one. The wound was left to itself, a little lint being applied to soak up the oozing of blood. Hemorrhage was slight. The patient was placed in bed, wrapped in warm flannel and kept under quinine.

April 26th symptoms of cystitis were noted. I ordered a warm sitz-bath and a prescription of potassium bicarbonate, and hyoscyamus.

May 19th, the patient was etherized and Nos. 10 and 16 English steel sounds were passed.

June 9th, the patient was discharged cured. He was ordered to have full sized steel sounds passed at least once a week. The calculi are mostly phosphate of lime. The larger one weighs four hundred and seventy-five grains (30.78 grammes), the smaller two hundred and forty grains (16.2 grammes). It will be observed that the larger stone is a perfect cast of the distended prostatic portion of the urethra, even presenting the impression of the opening of the ducts. And notice also that the facet of junction of the two stones at the greater curvature of the urethra is very perfect. These are remarkable specimens of prostatic or urethral calculi and undoubtedly were lodged there when the boy first presented symptoms at the age of three years.

CASE VII.—*Stone found at a post-mortem.*—Mr. M. H——, married; aged sixty-five years, was seen a short time previous to death by Dr. Snow and myself. He gave the history of urethral and bladder trouble extending over a period of fifteen years. His condition was such that no very thorough examination of his case could be made. His urine on examination revealed a large amount of pus and albumen. Under the microscope crystals of oxalate of lime and pus were found, but no casts. I was reminded by the son that I had treated him five years before for abscess of the kidney, whereupon I expressed myself as desirous of being informed of his death whenever it should occur. The patient had been treated also for attacks of bilious colic. He died July 25, 1879, and the autopsy was made at 4 P.M. next day. The following is a brief report: Peritoneum thickened; bladder distended and partially adherent to peritoneum. The middle lobe of the prostate gland was enlarged and had attached to it a diseased mass, behind which was a calculus about the size of a walnut. This diseased mass seemed to be a non-malignant ulcer. Left kidney was contracted and filled with calcareous deposits, while the right was enlarged and filled with pus and abscesses. There were evidences of pleurisy on the right side, there being slight adhesions at apex and side of right lung. Gall bladder was filled with calculi as was also the cystic duct.

The weight of the stone is eighty-four grains (5.443 grammes), and is phosphatic in its make-up.

CASE VIII.—*Portion of chewing-gum introduced into the bladder; removed by Bigelow's method; recovery.*—Mr. A. S——, twenty-four years of age, single, was admitted to the Albany Hospital, September 5, 1879, and the diagnosis of foreign substance in the bladder made. Six weeks before coming to the hospital the patient had introduced a piece of chewing gum into his bladder. He had been treated, but without success. On September 7th the searcher, a steel sound with short curve, was introduced and the foreign body felt. The next day a consultation of the staff was held, and on again using the searcher the substance could be felt, but when the lithotrite was introduced into the bladder nothing could be found. It was concluded to wait a little. On the morning of September 9th the patient had a severe chill. Cinchonidian sulphate was freely given and continued in two-grain doses every two hours. September 13th the searcher was again introduced, and the body could be distinctly felt, indeed an audible click was emitted by the incrusted salts of the urine. On September 14th he had another chill. On the 17th the patient was put under ether and with the lithotrite pieces of the salts incrusted about the gum were brought away. Bigelow's evacuating-tube, No. 29, was introduced into the bladder, and his suction-apparatus, filled with water, was attached. The water was gradually forced into the bladder, and as it returned the gum came with it, thus making the operation a complete success. The patient was put to bed and ten grains of quinine given him. The cinchonidia was continued as usual, two grains every four hours. About 11 A.M. September 18th the patient had a severe chill. Ten grains of quinine were given and warm applications made. At eight o'clock P.M. another chill occurred. Temperature was 105° F.; pulse, 150, and perspiration very profuse. After the 18th the patient had had no chills, and his improvement was continuous up to September 24th, on which day he was discharged cured. The gum, together with the crust of phosphates, weighs twenty-nine grains (1.879 grammes). For this case no instrument could have taken the place of the Bigelow apparatus. The soft gum filled the jaws of the Teevan lithotrite, and it would have been impossible to have gathered it in that way. Moreover, it probably could not have been pulverized sufficiently for it to have been washed out with a double catheter or evacuated with the urine.

CASE IX.—*Large phosphatic calculus; cystitis; great amount of pus in the urine; medio-lateral lithotomy; recovery.*—Henry M——, M.D., forty-two years of age. Two years ago last October, while visiting a patient during a rain-storm, Dr. M——, the patient, caught cold and had an attack of acute cystitis. His professional duties did not allow him to get entirely over his ailment before he again went to work, and he thinks riding aggravated the trouble. At times he had been troubled with spasms of the bladder, making it necessary to pass a catheter. This operation, however, was so painful upon these occasions as to necessitate the administration of chloroform previous to the introduction of the instrument. At times also there have been a great deal of pus and mucus in his urine, and its condition so acid as to scald severely on passing it. To relieve the burning he was constantly in the habit of taking alkalies, morphine, chloroform, etc. He further complained of considerable pain in the end of his penis.

On October 12, 1879, the patient was put under ether and the urethra and bladder examined. A number of strictures were found in the urethra. An Otis' instrument was passed and the stricture in the spongy portion cut. One or more deeper down were of large calibre, and admitted a No. 12 sound. A Thompson's searcher was passed into the bladder, and a calculus of quite large dimensions was found. With the lithotrite it seemed to be over two inches in length and more than an inch in its shorter diameter. The patient was then allowed to come out from the anæsthetic and was given five grains of quinine. Having a slight chill at 6.30 P.M., five grains more of quinine was given. This latter dose was vomited, however. At 9.30 the patient was doing nicely.

October 18th.—The patient was put under ether, and the medio-lateral operation for lithotomy by the rectangular staff done. Owing to the size of the stone it was found necessary to crush and remove it in fragments. Length of operation forty-five minutes. After the operation the hemorrhage became rather

unpleasant, and the patient was again put under ether and another ligature applied, which, in addition to plugging the wound, controlled the bleeding. The manner of making the plug, by Dr. S. B. Ward, was as follows: A circular piece of oilcloth was passed over a catheter and tied firmly; the catheter was then passed into the bladder, and the space between it and the oilcloth firmly packed with lint. The plug was removed October 19th, the patient doing nicely and passing urine through both urethra and wound.

On October 31st the urine passed entirely through the urethra. It was nearly one-third pus and mucus.

November 4th.—The urine was passing nearly clear. The neuralgia was also diminishing. On this date a catheter was passed, after which urine escaped from the wound for a short time. Patient continued taking twelve grains of quinine in twenty-four hours. On November 7th the patient came down-stairs for the first time since the operation, and on November 8th he attended a clinic. At this date he was troubled with incontinence of urine. Pulse and temperature were normal, and he was feeling well. On November 14th he was up and moving about the hospital. Could hold his urine for two or three hours at a time, and the pus had nearly disappeared from it. His bladder was washed daily. On November 18th the urine appeared normal. On the 22d a stricture two and three-fourths inches from the meatus was divulsed and cut with Otis' instrument.

December 3d.—The patient was discharged cured and returned to his home.

The weight of the stone is three hundred and forty-five grains (22.356 grammes). It could easily have been crushed, but in consequence of its size and a severe cystitis, it was thought best to cut. The first objection, viz., the size of the stone, we have learned to be untenable, while the second is still on trial. The following letter was received from Mrs. M——, in reply to one of inquiry from the house surgeon. I feel it my duty to present it, as giving the final results in the doctor's case. I am told by those who saw him after his return home that he was exceedingly careless in the matter of exposure. His death was probably the result of hepatic abscess. The following is a copy of the letter:

"In reply to your postal card, requesting me to tell you something of Dr. M——'s last sickness. I will say he returned from the Albany Hospital the 5th of December, feeling well, and continued to feel well until the 16th of December, when he was taken with an acute pain in the right side under the floating ribs, accompanied with sickness at the stomach, vomiting up all kinds of medicine and nourishment that he took. Two or three days afterward he discovered a swelling in the same place, the size of a large hen's egg, which was very sore. He could not bear anything upon it, even the weight of the sheet was burdensome. The pain gradually wore away, leaving it very sore. After the pain subsided he had a high fever, followed by a sweating stage. About ten days after he was first taken sick he had a hard chill, which lasted twenty minutes, followed by a very high fever and sweating stage. He continued to have chills, fevers, etc., once a day at first, and afterward more frequently, until he died, January 10, 1880. He retained consciousness until about four hours before he breathed his last. I ought to have stated that he had a very sore throat and mouth, which made it difficult for him to swallow. Tongue badly swollen and very sore."

CASE X.—*Large phosphatic calculus; Bigelow operation; recovery.*—Mr. C. H——, aged sixty, was admitted to the Albany Hospital May 26, 1880. About eighteen years ago he began to experience burning sensations about the urethra when passing water, and continued to have them at times, though not sufficiently unpleasant to occasion any particular annoyance up to about four years ago, at which time, after riding over rough roads, he had an attack of hemorrhage from the bladder, lasting for a short period. These hemorrhages would recur regularly every two or three weeks, and continued to do so up to about two years ago. At the time of the first attack of hemorrhage, he had a severe pain in the lower portion of the left lumbar region, which lasted for two or three days, and required considerable doses of morphia to relieve it. Upon his admission to the hospital an examination with a sound was made, when a calculus was both distinctly felt and heard. He was now given ten-grain doses of potass. citrate three times a day. On May 29th he was anæsthetized and a lithotrite passed. After exploring the bladder for some little time, the stone was finally engaged and crushed, the Thompson and Teevan lithotrites being used alternately. The instrument was then withdrawn and litholapaxy practised, drawing away considerable *débris*. (I used in this operation, as well as in my others, the original instrument of Bigelow; but during its use at this time, the rubber bag became loosened from its attachment, thus rendering it unserviceable. I was, therefore, greatly indebted to Dr. Vanderpoel, Jr., for the use of his improved Bigelow apparatus, as also for his personal assistance.) The preceding operations were done consecutively for several times, until the bladder was quite free from foreign matter. He was taken to his room and ten grains of quinine given. He had some vomiting before fully recovering from the effect of the ether. The first night following the operation he had a chill, the temperature afterward rising to 102.5°, and dropping by the third day to 99.5°. On the afternoon of the third day he had a second chill, followed by a temperature of 101.5°, which declined again by the fifth day. The patient was now given five-grain doses of quinine three times a day. On the seventh day he had a chill, followed by a temperature of 103.6°, at which time one-fourth drop each of tincture aconite and tincture digitalis was given every hour, the temperature falling next morning to 101°. By the eleventh day it had gradually reached normal, remaining about so with some slight exacerbations until the evening of the fifteenth day, when, having had another chill, it rose to 103°. On the first of June he was ordered to take triticum repens. On the eleventh of June he was put on tinct. gentian comp. The temperature on the morning of the sixteenth day dropped to 101°, but on the same day, after a slight chill, it again reached 103°. On the seventeenth day it fell to 99°, rising again to 101° in the evening. On the morning of the eighteenth day the temperature was normal, but rose again in the evening to 101°. On the nineteenth day he had a severe chill, which sent the temperature up to 103.5°; it fell next day, however, to 102°. It rose again on the twenty-first day to 103.6°, falling gradually by the twenty-third day to 99.5°; but that evening another chill caused it to rise to 102.5°. By the twenty-fifth day, it had declined to normal. On the twenty-seventh day, he experienced a slight chill, with but little rise of temperature, which subsequently dropped to about normal, and so remained until the day of his discharge, June 30th, when he expressed

himself as being in much better condition, both physically and mentally than he had been before in years.

On July 13th, I received a letter from the patient's family physician, Dr. Merritt, in which he stated that the patient had had a relapse as a result of overdoing, but at the time of writing he was much better and able to be about. With proper care there was no doubt but that he would be as well as ever again. Very recently I received word from the patient himself, to the effect that he was entirely well, passing normal urine in a natural manner and again attending to business. The detritus weighs three hundred and eighty grains (24.624 grammes), and is entirely phosphatic. But very few cases have been reported where so large a stone has been successfully treated by the Bigelow operation.

CASE XI.—*Small phosphatic calculus; Bigelow operation; rapid recovery.*—Mr. R. S. P——, aged fifty-three, was admitted to the Albany Hospital September 13, 1880. History: about three years ago the patient first noticed that he could not pass water as readily as usual. This slight impediment to the emptying of his bladder remained for a while, and then there gradually came on a feeling of weight and dragging pain in the region of the bladder, and some pain radiating up the tract of the ureters. About eighteen months since, while urinating with the usual resistance, he noticed that a bloody discharge was escaping from him. This was the only time, however, that blood ever passed him. He has complained of pain in passing urine ever since he first observed anything wrong. For the past three months he has had to draw his own water by means of a catheter. There was no suspicion in his mind as to the nature of his trouble until recently, when on sounding him I discovered a calculus of small size and suitable for the operation of litholapaxy. This operation was performed September 18th, and a number of fragments of a phosphatic variety removed. The patient since has been doing very well. Cinchonidiæ sulph, in two grain doses, three times daily, has been given. His temperature upon the evening of the operation was 102°, and pulse 100. These fell the next morning, the temperature to 99.6°, and the pulse to 80. The evening of that day (the 19th), however, they rose respectively to 101° and pulse 85, falling again to 99°, pulse, 70. After this for a few days the temperature ranged between 99° and 100°. There were no signs whatever of a chill after the operation. His urine was drawn off when required to be. About eight days after the operation the bladder was washed out and sounded, but nothing was found. Since then the washing was repeated once a day, nothing but a little mucus making its appearance in the urine. The patient was discharged October 2d, 1880, having been in the hospital nineteen days in all, and but fourteen since the operation. He came to my office recently, saying he was feeling well. Could urinate in a natural manner, had none of his old symptoms. On sounding the bladder it was found free from any deposit. Weight of detritus was sixty grains (3.888 grammes).

A somewhat remarkable feature of this case was the fact of his having retention of urine while a stone existed in the bladder.

While the Bigelow operation has been so very successful, yet in the cases here presented, the chills following the operations have been a very great source of anxiety. In performing the operations here spoken of, I am greatly indebted for assistance to my colleagues, Drs. Ward, Snow, Mosher, Curtiss, and Hailes, and the faithful house-physicians of both hospitals.

## THE NEW YORK STATUTES FOR REGULATING THE PRACTICE OF PHYSIC AND SURGERY.

By EDWARD B. MERRILL,

ATTORNEY AND COUNSELLOR-AT-LAW, NEW YORK.

(Continued from p. 11.)

"SINCE the passage of the act of 1844 (which has already been given), quackery may certainly boast its triumphant and complete establishment by law. But, notwithstanding this, a brief retrospect of the course of legislation on this subject may not only be useful, but is, to some extent, necessary in deciding the case now before us.

"About fifty years since, the Legislature undertook 'to regulate the practice of physic and surgery in this State,' and made it penal to do either without being duly licensed for the purpose (3 Greenleaf, 417). To the like effect was the subsequent act of 1801 (1 K. & R., 449).

"These statutes did not, in terms, declare that no compensation should be recovered by an unlicensed practitioner, but they did what was equivalent to such an enactment, for they subjected him to a penalty for the unauthorized and illegal act. But a statute passed in 1806 expressly declared that any person who should commence practice after the first day of September then next, without being duly licensed, should 'forever thereafter be disqualified from collecting any debt or debts incurred by such practice' (4 Web., 538, § 7). The Revised Laws of 1813 contained a similar provision (2 R. L., 222, § 12), as did the Revised Statutes of 1830 (vol. i. 455, § 22). This section of the Revised Statutes also made the unauthorized practice of physic and surgery 'a misdemeanor, punishable by fine or imprisonment, or both.' This was a short-lived clause, for it was repealed by the act of April, 1830, which made the offence penal, not criminal, and which also declared that such penal provisions should 'not be deemed and taken to extend to or debar any person from using or applying, for the benefit of any sick person, any roots, barks, or herbs, the growth or produce of the United States' (Laws 1830, p. 141). This statute was interesting in more than one respect; quackery ceased to be a crime, and if confined to the use of domestic roots, barks, and herbs, it was not even a penal offence. Much had thus been gained, although a complete triumph was not achieved. The empiric, although still unable to compel payment for domestic roots, barks, and herbs, when administered, had only to exact payment in advance, and he stood on safe ground. But this limited indulgence to ignorance and imposture called for redress, and it was attempted to be given by the Act of 1834, which provided that the exception from the penal provisions of the act of 1830 should be confined to such persons as should, *without fee or reward*, use or apply roots, barks, or herbs, the growth or produce of the United States (Laws 1834, p. 72). The next Legislature held this remedy to be worse than the disease, and the Act of 1834 was blotted out in 1835 (Laws of 1835, p. 354). Thus the law on this subject was thrown back to the revised laws, and the Act of April 7, 1830, both which remained in force until 1844, when the Legislature swept away all criminal and penal laws against the unlicensed practice of physic and surgery, and every enactment which prohibited any person from recovering a compensation for services as a physician or surgeon, whether licensed or not (Laws of 1844, p. 406).

"The triumph was now complete, for the Legislature had made every man a doctor, and nostrums of every description and admixture could now be safely prescribed, and payment therefor exacted by authority of law. This is still (1847) the state of the law on this subject, for I believe it has undergone no change since the Act of 1844 was passed. But such was not the law in 1840, when the services in question in this case were rendered. The Act of April, 1830, and the first clause of the twenty-second section of the Revised Statutes already referred to, were then in force. These provisions are consistent with each other. One of them, the Revised Statutes, declares that "every person not authorized by law who, for any fee or reward, shall practise physic or surgery in this State, shall be incapable of recovering by suit any debt arising from such practice." And this was not changed by the Act of April, 1830, which, while it subjected unlicensed practitioners to the payment of penalties, exempted from such penal provisions those who used or applied 'for the benefit of any sick person, any roots, barks, or herbs, the growth or produce of the United States."

"The plaintiff was a botanic physician, and it may be fair to hold upon this return that he used only vegetable remedies of domestic origin. He was, then, not subject to any penalty for prescribing and administering them, but while the Revised Statutes were in force he could not compel payment for his services as an unlicensed physician, whatever remedies might have been prescribed and administered. Such was the law in 1840, when the services were rendered, and as to his case, it was the same in 1845, when the case was tried. The repeal of the previous prohibitory laws by the Act of 1844 had no effect upon cases which arose before that act was passed."

This statute (Laws of 1844, chap. 275, p. 406) was again examined by Daly, Ch. J., in a case in the Court of Common Pleas, between a vocalist, one Emilio Rossi Corsi, as plaintiff, and Max Maretzek, as defendant, in 1855 (4 E. D. Smith's R., 1).

The head-note of the case, or that portion of it which appertains to our present inquiry, is as follows:

"In the absence of special statutes, the law does not exclusively recognize any particular system of medicine or class of medical practitioners."

"The statutory regulations formerly in force in the State of New York, requiring as a condition to the right of recovery for medical services an attendance upon lectures, an examination before a medical board, and a certificate from an organized association, are repealed."

"The repealing act (Session Laws of 1844, chap. 275, p. 406) expressly permits any person to practise physic, subject to punishment, as for a misdemeanor, if convicted of gross ignorance, malpractice, or immoral conduct."

"Medicine is a progressive rather than an exact science; and in determining the legal significance of the word 'physician' or 'doctor,' when used in a contract, the term must be held to mean any person who makes it his regular business to practise physic."

"Accordingly, where an agreement of employment between an opera director and a vocalist provided for forfeiture of a month's salary in case the latter should fail to attend at any stated performance, except in the event of sickness certified to by a doctor, to be appointed by the director, *held*, that the provision was binding upon the artist, although the director appointed a person in the practice of what is known as the homœopathic system of medicine."

In the course of his opinion, Chief Justice Daly has the following to say in regard to the history of the theories and practice of medicine. To be sure this opinion was given a quarter of a century ago, but we are not sure that he does not still hold the same views. He must, certainly, as to its early history. It is interesting, however, as coming from so intelligent and highly respected a source:

"By the terms of the contract the selection of the doctor was left entirely to the defendant, and it was for him to judge of the fitness or capacity of the person to be selected. All that he was required to do, in the fair interpretation of the contract, was to appoint a person, who made it his business to practise physic, and it was wholly immaterial to what school of medicine the person so selected belonged, or whether he belonged to any. The legal signification of the term doctor, when employed as it is in this contract, means simply a practitioner of physic. The system pursued by the practitioner is immaterial. The law has nothing to do with the merits of particular systems. Their relative merit may become the subject of inquiry when the skill or ability of a practitioner, in any given case, is to be passed upon as a matter of fact. But the law does not and cannot supply any positive rules for the interpretation of medical science. It is not one of those certain or exact sciences in which truths become established and fixed, but is essentially progressive in its nature, enlarging with the growth of human experience, and subject to those changes and revolutions incident to any branch of human inquiry, the laws of which are not fully ascertained. The labors of the anatomist, the physiologist, and the chemist, have contributed an immense storehouse of facts; but the manner in which this knowledge is to be applied in the treatment and cure of diseases, has been, and will probably continue to be, open to diversity of opinion. No one system of practice has been uniformly followed, but physicians, from the days of Hippocrates, have been divided into opposing sects and schools. The sects of the Dogmatists and the Empirics divided the ancient world for centuries, until the rise of the Methodics, who, in their turn, gave way to innumerable sects. Theories of practice, believed to be infallible in one age, have been utterly rejected in another. For thirteen centuries Europe yielded to the authority of Galen. He was implicitly followed—his practice strictly pursued. Everything that seemed to conflict with his precepts was rejected; and yet, in the revolutions of medical opinion, the works of this undoubtedly great man were publicly burned by Paracelsus and his disciples; and for centuries following, the medical world was divided between the Galenists and the Chemists, until a complete ascendency over both was obtained by the sect of the Vitalists. This state of things has been occasioned by the circumstance that medical practitioners have often been more given to the formation of theories upon the nature of disease and the mode of its treatment than to that careful observation and patient accumulation of facts by which, in other sciences, the phenomena of nature has been unravelled. I am far from undervaluing the great benefits conferred upon mankind by the study of medicine, and have no wish to minister to any vulgar prejudice against a useful and learned profession, but it is not to be overlooked that, as an art,

it has been characterized in a greater degree by fluctuations of opinion as to its principles and the mode of its practice, than perhaps any other pursuit; that it has been distinguished by the constant promulgation and explosion of theories; that it has alternated between the advancement of new doctrines and the revival of old ones; and that its professors in every age have been noted for the tenacity with which they have clung to opinions, and the unanimity with which they have resisted the introduction of valuable discoveries. They still continue to disagree in respect to the treatment of diseases as old as the human race; and, at the present day, when great advances have been made in all departments of knowledge, a radical and fundamental difference divides the Allopathists from the followers of Hahnemann, to say nothing of those who believe in the sovereign instrumentality of water.

"In fact, nothing comparatively is known of the philosophy of disease. Its eradication or cure, when the result of human agency, is, in the great majority of instances, attributable rather to the careful observation, judgment, and experience of the particular practitioner, than the application of general or established methods available by all. The popular axiom, that 'doctors differ,' is as true now as it ever was, and as long as it continues to be so, it is impossible for the law to recognize any class of practitioners, or the followers of any particular system or method of treatment, as exclusively entitled to be regarded as doctors. In adverting to the conflicting views and differences of opinion that exist and have ever existed in the practice of the healing art, it is not to call in question the value of learned, skilful, and experienced physicians, but merely to show the error of attempting, in the present state of medical science, to recognize, as matter of law, any one system of practice, or of declaring that the practitioner who follows any particular system is a doctor, and that one who pursues a different method is not.*

"The error of the court below consisted in undertaking to do this; in holding that the person appointed by the director was not a doctor, because he practised upon principles of homœopathy, and in assuming, judicially, that a license from some institution or body, or a degree conferred by some medical college, or the authority of some medical society, was necessary before a man could be considered in the law a practitioner of physic. The qualifications of physicians have occasionally been made a matter of statute regulation. To secure a certain amount of preparatory knowledge, laws have been passed requiring an attendance upon medical lectures, an examination before a medical board, and a certificate from organized medical bodies, before an individual was authorized to practise, or at least before he could maintain an action to recover for his services. Such laws formerly existed in this State, but the Legislature, whether wisely or not, thought fit to repeal them by the Act of 1844 (Laws of 1844, p. 406). And since the passage of that act, any person may practise physic in this State, and maintain an action for his services, subject to being punished for a misdemeanor if convicted of gross ignorance, malpractice, or immoral conduct, and with a liability to an action for damages in the event of malpractice. If the plantiff desired a particular kind of physician, he should have stipulated for him; but, having left the selection entirely to the director, the director had a right to appoint an homœopathic physician, or to appoint any individual who made it his regular business to practise physic.

"Judgment reversed."

The Statute of 1844 was again the subject of comment by Mr. Justice Sutherland, in the Court of Appeals, in 1870. A case was brought there on appeal, from the Montgomery Circuit, in 1861, wherein an allopathic physician had called a homœopathic physician a "quack," for which epithet the latter brought an action for libel, and before a jury recovered a verdict for $200. The court, in its unanimous opinion, says: "The legislation of this State, from and including the Act of the 23d March, 1797 (3 Gr., 427), to the Act of May 6, 1844 (Laws 1844, p. 406), had so far and continuously recognized and regulated the practice of the allopathic system or school of medicine (and which may still be called the old and perhaps the ordinary system or school of medicine), as the only legal system or school of medicine, that I question whether any physician or person calling himself, or called by others, a physician, not licensed as an allopathic physician, could, previous to the Act of 1844, have maintained an action against any one for calling him a quack.

"For the statutes concerning the practice of physic and surgery in this State, prior to the Act of 1844, in addition to the Act of 1787, see the Act of 1801 (1 K. & R., 449); the Act of 1806 (4 Web., 538); 2 Rev. Laws of 1813, p. 218; 1 Rev. Stats., 451–456; Act of April 7, 1830, Laws, 1830, p. 141; Act of April 5, 1834, Laws, 1834, p. 72; Act of May 11, 1835, Laws, 1835, p. 354; see also March *v.* Davison (9 Paige R., 585, 586); Bailey *v.* Mogg (4 Denio, 60).

"Since the passage of the Act of 1844, I do not think that it can be said that the laws of this State recognize any particular school or system of medicine as the legal or authorized school or system; for that act, in effect, abolished all previous statutory regulations and restrictions concerning the practice of medicine, and authorized any one without any license, to practise physic and surgery, and to 'prescribe for or administer medicines or specifics to or for the sick,' and to recover for his or her services, at the peril of being sued for malpractice, and if convicted of gross ignorance, malpractice, or immoral conduct, of being punished therefor by fine or imprisonment, or both, as a misdemeanor.

"We cannot avoid taking judicial notice of the fact that homœopathy, as a distinct system or school of medicine, with its professors and physicians, medicines and formulas, treatises and schools of instruction, and with a fair share of intelligent persons for its patrons and patients, has existed in and been diffused through this State, and in and through other States and countries, for some time past; and I do no see why, in this State, since the Act of 1844, the allopathic and the homœopathic physicians have not had, and have not now, equal and the like remedies for slanderous or libellous attacks on their professional reputations or characters.

"In view of the Act of 1844, pretentious ignorance of the system must be regarded as making the quack, and not the system.

"To call a physician, whether homœopathic or

* It may, perhaps, be safely questioned, whether the sister sciences of law and theology present any such history or certainty of opinion as might enable them to arraign the medical profession, and whether the course of human investigation, upon any field of inquiry, is not equally marked by a tenacious adherence to old landmarks, and a gradual adoption of new theories of progress. The opposition encountered by Harvey's discovery of the circulation of the blood, finds its counterpart in every stage of natural science since the persecutions which inaugurated the Copernican system of the universe.—REPORTER.

allopathic, a quack, is in effect charging him with a want of the necessary knowledge and training to practise the system of medicine which he undertakes to practise, and which he holds himself out as having received, by undertaking to practise; and I do not see why it is not now, and has not been since the Act of 1844, just as actionable falsely and maliciously to call a homœopathic physician a quack as to call an allopathic physician a quack.

"There cannot be any doubt, I think, that to falsely and maliciously call either a quack is actionable, and has been since the Act of 1844." . . . .

This review of the statutes and decisions brings us to the condition of the subject as found in the Revised Statutes so-called (1 Rev. Stat., sixth edition, 1109–1122).

In examining these provisions we find that they are a compilation left unrepealed, or so supposed to be, and as amendments and additions from 2 R. L., 220, §§ 12, 20, 21; Laws 1818, p. 192; Laws 1819, p. 308; Laws 1827, p. 178; ch. 123 of Laws 1854; Laws 1851, ch. 116, §§ 3, 4, and they provide as follows:

SECTION 1.—Medical societies shall require physicians and surgeons to apply for admission.

SECTION 2.—If persons notified do not apply, license to be forfeited.

SECTION 3.—Charges may be preferred to the society against members for misconduct, for gross ignorance, or for immoral conduct or habits.

SECTION 4.—If two-thirds of members present at the meeting shall be of opinion that the charges are well founded, a copy of the charges shall be delivered to the district attorney of the county, and a notice thereof to the member accused, who from that time shall be suspended from practice until the determination of such charges.

SECTION 5.—The district attorney shall serve a copy of the charges on the accused and give notice of hearing before the county judges, who shall hear and determine them, and if found true the member accused shall be expelled from the society, and declared incapable of practising; or he may be suspended for a limited period; or he may be acquitted, in which case his suspension from practice shall cease, and he shall be restored to all his former professional rights.

SECTIONS 8–11 provide the qualifications of students.

SECTIONS 13–22 give power to the Regents of the University, under certain conditions, to grant diplomas, conferring the degree of Doctor of Medicine, etc., which degree shall be a license to practise physic and surgery.

SECTIONS 23, 24.—Candidates rejected by censors in one county not to be examined in another, but may appeal to State Society, and persons rejected by State censors shall not be admitted to examination by county censors.

SECTION 25.—No person shall practise physic or surgery unless he shall have received a license or diploma for that purpose from one of the incorporated medical societies in this State; or the degree of Doctor of Medicine from the Regents of the University; or shall have been duly authorized to practise by the laws of some other State or country, and have a diploma from some incorporated college of medicine or legally incorporated medical society in such State or country.

SECTION 26.—No person coming from another country shall practise physic or surgery in this State until he shall have been examined and licensed by the censors of the State Medical Society; and no person coming from another State shall practise physic or surgery in this State until he shall have filed a copy of his diploma in the office of the clerk of the county where he resides, and until he shall have exhibited to the medical society of that county satisfactory testimonials of his qualifications, or shall have been examined and approved by its censors (Laws 1841, chap. 64).

SECTION 27.—No diploma granted by any authority out of this State, to an individual who shall have pursued his studies in any medical school within this State, not incorporated and organized under its laws, shall confer on such individual the right of practising physic or surgery within this State.

SECTION 28.—Every person licensed to practise physic or surgery, or both, shall deposit a copy of the same with the clerk of the county where he resides, who shall file the same in his office, and until such license is so deposited, such person shall be liable to all the penalties provided by law, in the same manner as if he had no license.

SECTION 29.—No person under the age of twenty-one years shall be entitled to practise physic or surgery in this State.

SECTION 30.—The degree of Doctor of Medicine conferred by any college in this State shall not be a license to practise physic or surgery, nor shall any college have or institute a medical faculty to teach the science of medicine in any other place than where the charter locates the college.

From the consequence of disobedience to this provision, Geneva College, The University of the City of New York, the Albany Medical College, Buffalo University, Madison University, St. John's College, Rochester University, New York Medical College, Albany University, New York College of Dental Surgery, People's College, Metropolitan Medical College of the City of New York, Excelsior Medical College in the City of New York, and the American College of Medical Science are respectively, upon certain conditions, excepted. By the law of 1853, chap. 184, § 11, the degree of Doctor of Medicine could be conferred by the trustees of all colleges upon the applicant showing certain required qualifications.

The law of 1844, chap. 275, quoted above, is still in force.

By chap. 746, Laws 1872, the Regents of the University are granted power to appoint one or more boards of examiners in medicine, each board to consist of not less than seven members, who shall be licensed to practise physic and surgery in this State. The examiners are to examine the candidates referred to them for the purpose by the Chancellor of the University in anatomy, physiology, materia medica, pathology, histology, clinical medicine, chemistry, surgery, midwifery, and therapeutics, according to each of the systems of practice represented by the several medical societies of this State, and make a full report thereof to the Chancellor. Any person over twenty-one years of age, of good moral character, and paying not less than twenty-five dollars into the treasury, and who shall adduce satisfactory proofs to the Chancellor that he or she has a competent knowledge of all the branches of learning taught in the common schools of this State, and of the Latin language, may be examined. The Regents, upon certain conditions to be observed, may grant a diploma to the candidate, conferring the degree of Doctor of Medicine, which degree shall be a license to practise physic and surgery.

This is an additional piece of legislation in the same spirit which seems to have governed much that has gone before in this State, the object seeming to be to open as wide as possible the entrance to the practice of medicine. But in view of what had already been done, and the ease with which any competent and proper person could be licensed to practise physic and surgery in New York, and the number of very respectable medical schools throughout the State, whose special business and duty it is to furnish society with the necessary number of custodians of health, well prepared for their business, unless there be some hidden scheme in the belly of the act, which laymen are not expected to discover, we can see no good reason for its passage.

The Statute of 1874, chap. 436, was passed to provide for the censorship by the censors of the medical societies, "of every practitioner of medicine and surgery in this State, *excepting licentiates* or *graduates* of some medical society or chartered school," and by the third section of this act it is declared a misdemeanor for any person to practise medicine or surgery in this State unless authorized so to do by a license or diploma from some chartered school, State Board of Medical Examiners, or medical society, or who shall practice under cover of a medical diploma illegally obtained, and any person found guilty of such a misdemeanor shall, for the first offense, be fined not less than fifty nor more than two hundred dollars, for any subsequent offense not less than one hundred nor more than five hundred dollars, or by imprisonment not less than thirty days, or by both imprisonment and fine; and all such fines shall go into the county treasury of the county bringing such action.

The last piece of legislation to which we arrive in our examination is chap. 513, Laws of 1880, entitled "An Act to regulate the licensing of Physicians and Surgeons."

Section 1 confirms the authorization of physicians to practise who duly conformed to the laws in existence when they were admitted; and such as are authorized by the Regents under chap. 746, Laws of 1872; and forbids all others, unless he is twenty-one years of age, and is authorized by subsequent sections of this act.

Section 2.—Requires all persons lawfully engaged in practise to register in the county clerk's office before the first day of October, 1880; and every other person, before commencing to practise, to register likewise, making oath of his authority, and paying a fee of twenty-five cents.

Section 3.—The penalty for violation of these provisions, or for practising under cover of a diploma illegally obtained, is a misdemeanor, punishable by fine or imprisonment, or both; the fines, when collected, to be paid one-half to the informer and one-half into the county treasury.

Section 4.—Provides the manner in which persons coming from without the State may be licensed to practise here, upon being registered as above.

Section 5.—The Degree of Doctor of Medicine lawfully conferred by any incorporated medical college or university in this State shall be a license to practise, after registration of the person.

Section 6.—Not to apply to medical officers of the United States Army and Navy. "Nor shall it apply to any person who has practised medicine and surgery for ten years last past, and who is now pursuing the study of medicine and surgery in any legally incorporated medical college within this State, and who shall graduate from and receive a diploma within two years from the passage of this act."

This latter provision of the sixth section of this act is the only one over which any person called upon to interpret the statute might long hesitate before defining its meaning. Reading it by itself one is disposed to ask several questions in regard to it, the chief one of which would be, Why was it put there? and, What idea was it intended to express? He might inquire if it is meant to apply to those persons who have been legally or illegally practising medicine for ten years, either without any diploma or license from any medical society or school, or other legal source, or who have just discovered their ignorance and inefficiency and entered some incorporated medical college with a view of graduating in two years with a degree? Do doctors do such things? And if they follow this direction why should they be exempt from registration, after they take their degree, over every other respectable physician in the State? There is nothing in the phrase itself to show that it refers to non-residents more than to residents, to those who have practised here or elsewhere, and the presumption is that it applies to all. I very much doubt, however, whether it be worth while to disturb ourselves very much over it. It is not likely to happen that any quack, charlatan, or impostor, who has escaped arrest and punishment while practising for ten years, or any other person, for that matter, will now enter any medical school for a regular course of study with a view of obtaining a regular degree. If they have got along well enough without it so far, they will hardly let it trouble them for the future. This act is drawn somewhat inartificially, or at least it so now appears, but that may well have arisen from certain amendments introduced subsequent to its original form. But the papers in your issue of October 9 and 23, 1880, respectively, are sufficiently full to satisfy any craving on the part of the profession for further discussion of the legal meaning of the act, until a judicial exposition of it is had from the courts.

This review of all the past legislation in the State upon the subject in hand may prove serviceable in the preparation of any future full and complete act of the Legislature which shall meet the demands of the times. And if it should so prove, the medical profession are welcome to its use.

New York, March 14, 1881.

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Therapeutic Uses of Tobacco.—Dr. G. M. Christine urges the more extended use of tobacco in the form of poultices. Dr. Christine considers it very efficacious in relieving pain, when poultices of mush or flaxseed are of no avail. To make the poultice the leaves are the best, but segar clippings will answer. The tobacco should be cut up fine, and mixed with flaxseed meal. The poultice is then made in the usual manner, a piece of linen or gauze being placed between it and the body. Care must be taken, of course, that the part of the body to which the poultice is to be applied be not denuded of cuticle.

Disinfection by Heat.—The National Board of Health has had made a floating disinfecting apparatus by means of heat, to be used in connection with the inspection service on the Mississippi River. It is arranged so that the clothing, bedding, etc., of an infected vessel can be subjected to a dry heat of 230° F.

# Progress of Medical Science.

ATROPIA-POISONING SUCCESSFULLY TREATED BY HYPODERMIC INJECTION OF PILOCARPIA.—Professor Purjesz relates, in the *Pester med.-chir. Presse*, Nos. 15, 17, and 18, 1880, the case of a hospital patient, aged nineteen, under treatment for aortic insufficiency and kerato iritis, who drank, with suicidal intent, the contents of a bottle containing atropia in solution, used for his eyes. The quantity of atropia taken was about nine-tenths of a grain. The pupils were dilated to the maximum, the face was pale; respiration frequent, forty to fifty in the minute; pulse 140 to 150. The patient was perfectly unconscious, but sensibility was not lost. Relying on the observation by Lucksinger of the physiological antagonism between atropia and pilocarpia, Dr. Purjesz injected in succession six syringefuls of a one per cent. solution of pilocarpia (about 0.9 grain in each), and repeated the injection at intervals of from five to eight minutes. After the tenth injection the patient began to speak; the pupils were distinctly narrower, and, as the secretion of saliva and sweat had not yet appeared, another injection of nine-tenths of a grain of pilocarpia was made. After this dose the patient gave rational answers, the pulse fell to 80, the pupils regained their normal size, but reacted rather slowly to light, the respiratory movements became normal, the skin moist, and all the symptoms of poisoning by atropia disappeared.—*British Medical Journal*, February 26, 1881.

BEHAVIOR OF FRESH AND DEAD TISSUES IMPLANTED IN SEROUS CAVITIES.—Rosenberg (*Archiv für klin. Chir.*, vol. xxv., p. 721) has performed a series of experiments on animals, in order to determine the fate of bits of tissue inserted into the organism under antiseptic precautions. Pieces of muscle, skin, and other tissues were taken from healthy animals, and after immersion in alcohol deposited in the peritoneal cavity of dogs or rabbits. Entire rabbits' kidneys were also put into the abdomen of dogs. Of forty animals experimented upon, only seven died of peritonitis. It was ascertained that pieces of tissue may thus heal up either entirely without, or with only very slight reaction. After some time the substances disappeared without leaving the slightest trace. Absorption took place by three principal methods:

*First.*—The implanted tissue was surrounded during the first three or four days by a capsule, which gradually increased in thickness. Through this corpuscles emigrated and destroyed it. At a later period pus, with remnants of tissue floating in it, could be found. Giant cells were also often seen between the capsule and tissue.

*Second.*—This mode of healing was less frequently observed, and only in pieces of small size. After six days the piece of tissue gradually coalesced with its neighbors, and a closely adherent capsule was formed; through this the implanted substance received its nourishment. Its structure was retained for a long time. In the case of muscle, the transverse striation gradually disappeared, then the longitudinal, and lastly the sarcolemma was destroyed. With dead tissue, the cells migrated between the muscular fibres, developed into connective tissue, and finally caused obliteration of the foreign substance.

*Third.*—The peripheral layers were formed as in the second variety, but pus was found at the centre, in accordance with the first process. The location of the tissue was not a matter of indifference. The large omentum was found the most favorable place for resorption, while substances deposited in the neighborhood of the peritoneal wound invariably produced suppuration.—*Centralblatt für Gynäkologie*, April 2, 1881.

SUCCESSFUL TREATMENT OF ACUTE PHTHISIS BY THE CONTINUOUS TOPICAL MEDICATION OF THE LUNGS.—Dr. G. Hunter Mackenzie records in detail (*Lancet*, May 14, 1881) the successful treatment of a case of acute phthisis by causing the patient to respire as continuously as possible an "antiseptic" atmosphere. The result obtained would appear to bear out the experiments of Schüler of Griefswald, who found that animals rendered artificially tuberculous were cured by being made to inhale creosote water for lengthened periods. The patient was a young man, aged eighteen, who complained of general weakness, cough, and emaciation. Two brothers had died of phthisis, and there was a history of the same disease in his maternal relations. Beyond a slight roughening of the respiratory sounds, and prolonged expiration, there was nothing to be detected in the lungs. He was ordered cod-liver oil with hypophosphites, abundance of milk, and residence in the country; but in three months he grew rapidly worse. The fever increased, an evening temperature of 103° being recorded, with a corresponding quick pulse, shallow and hurried respiration, lips coated with sordes, thirst, and lividity of the extremities. At this time the lungs gave undoubted signs of disease, there was marked dulness over the upper third of the left lung anteriorly, with copious fine crepitation, racking cough, occasionally bloody sputum, severe night-sweats, and loss of hair. The treatment pursued in the first instance failed to relieve, when the system of topical medication was commenced with the following results: 1, slight fall of temperature; 2, great diminution of the cough, with complete cessation of the muco-purulent sputum; 3, marked improvement in the appetite and general strength; 4, gradual abolition of the night-sweats; 5, improvement in the physical condition of the lungs. Dr. Mackenzie believes that the success obtained in this case was owing to the particular method of treatment employed. For this purpose he has used various volatile antiseptics such as creosote, carbolic acid, and thymol; the latter he has discarded as being too irritating and inefficient. Carbolic acid seems to be absorbed, for it has been detected freely in the urine; no trace of creosote, on the other hand, has been found in the urinary excretion after its use for several consecutive days. As absorption of the particular drug employed is not deemed necessary, and therefore not to be desired, he now uses creosote only, either pure or dissolved in one to three parts of rectified spirit. Whether the success so far attained is due to the antidotal action of creosote and carbolic acid on a specific tubercular neoplasm, or to their action as preventives of septic poisoning from the local centres in the lungs, it is certain that their continuous, steady use in the manner described has a decidedly curative action in acute phthisis, and is therefore worthy of an extended trial.

DR. HESCHL, who succeeded Rokitansky a few years ago as Professor of Pathological Anatomy at Vienna, died on May 27th, in the fifty-seventh year of his age.

# THE MEDICAL RECORD:

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GEORGE F. SHRADY, A.M., M.D., Editor.

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## THE WOUNDED PRESIDENT.

THE various press bulletins which have announced the condition of the wounded President have not given, to the medical mind at least, a very intelligible idea of the precise nature and extent of the injuries inflicted. Neither have the symptoms been given with sufficient detail to enable a reasonably tenable opinion to be formed concerning the probable issue. Of course each medical man has weighed the probabilities as best he could from the data furnished. It is fair to suppose that a grave prognosis has been warrantable from the first, and that even the present report of an improvement in the symptoms must be accepted with reasonable misgivings as to the final result.

In order to appreciate the full significance of the situation, it is quite necessary that the case be studied in its surgical bearings, that the various facts in its history be carefully noted and their relative importance duly considered. We have taken great pains to obtain an authoritative account of the important facts bearing upon the character of the injury inflicted, and present them to our readers, not only for the special interest they may have in connection with the distinguished victim, but for their intrinsic importance in a strictly surgical point of view.

President Garfield, while in the act of walking in the depot at Washington, D. C., was shot at 9.20 A.M. July 2d. The ball entered the right side, about four inches from the median line of the spine, and on a level with the tenth intercostal space, penetrating the body. This wound was the result of the second shot, the first shot having merely penetrated the left side of the President's travelling coat, The would-be assassin was, at the time of firing the shot, six feet behind his victim and to the right. The weapon was a large-sized revolver, known as the English bulldog, and carrying a No. 42 conical ball, which is equal in size to that used in the ordinary navy pistol. At the time of firing, the assassin rested his pistol on his right forearm, the muzzle being inclined slightly downward.

After the first shot was fired the President turned toward the left, and almost immediately after the second shot sank forward on his knees. He was at once raised from his position, when he vomited.

Within five minutes after the shooting Dr. Smith Townsend was in attendance. He found the patient suffering severely from shock, and administered aromatic spirits of ammonia and brandy. Drs. D. W. Bliss and Dr. Purvis arrived soon after. The former gentleman then took formal charge of the case. Surgeon J. J. Woodward, of the Army, called, when a consultation was held, with the result of removing the patient to the White House. This was done after a repetition of the stimulants. When the ambulance arrived at the White House, shortly after 10 A.M., the patient was still suffering from shock and complained of pain and tingling in both legs and both feet. An hypodermic injection of morphine was administered (one-eighth of a grain) and stimulants were continued.

In the course of the next four hours the President's condition was critical and fears of internal hemorrhage were entertained. No examination of the wound was considered warrantable. The nausea and vomiting which had been troublesome during this period became more so at 3 P.M., and what was previously a partial reaction became a condition of relapsed shock, indicating internal hemorrhage. A consultation was held at this time by the attending physician, Dr. Bliss, with Surgeon-General Barnes, U. S. Army, Surgeon-General Philip S. Wales, U. S. Navy, Surgeons J. J. Woodward and Norris, U. S. Army, and Drs. Robert Reyburn, Townsend, Patterson, Purvis, and Lincoln, of Washington. It was then concluded that the patient was not in a condition to allow any attempt at finding the course of the ball; stimulants were continued, and also morphine in sufficient amount to control the distressing pain and tingling in the lower extremities. An examination of the region of the liver revealed an increased area of dulness extending parallel to the lower margin of the organ and two inches below the free border of the ribs. The margin of dulness was lost in the mass of fat posteriorly.

A careful examination of the chest revealed nothing abnormal save a comparatively slight want of expansion of the right side on inspiration. This was in all probability caused by the pain from the wound. The pulse was 102, temperature 96° F. The urine had been voided during the morning, was free from blood, and was healthy in appearance.

At 4.30 P.M. the patient was comparatively easy, and was under the influence of morphine.

In the evening, at 7 o'clock, another consultation was held. Reaction had then taken place, and an examination of the wound was determined upon.

The point of entrance was, as previously stated, nearly four inches from the spine, in the tenth intercostal space. The margins of the orifice were sharply defined, and there was no grazing of the skin in any direction, showing that the missile must have entered at right angles with the surface. The hole itself was small as compared with the size of the ball, being barely large enough to admit the introduction of the little finger.

An examination of the wound was made by Drs. Bliss and Wales. The latter was able to insert his little finger to its full length between the tenth and eleventh ribs, and in a direction forward, downward, and slightly inward. It was his opinion, from the feel of the parts, that the ball had penetrated the substance of the liver and had passed through it into the abdominal cavity. In confirmation of this view there was, after the examination, a venous hemorrhage from the wound, estimated to be equal to half a pint in quantity. It was also discovered during the examination that the lower margin of the tenth rib had been struck and fractured. The existence of the painful sensations in the lower extremities gave rise to the suspicion that the spine had been injured, but such could not be confirmed by the direction the ball was supposed to have taken.

10.20 P.M.—Reaction was fairly established, pulse and temperature normal. The stomach was irritable and there was considerable nausea. Constant complaint was made of pains in the lower extremities. The patient having retention of urine, probably as the result of the administration of morphine, was relieved by the catheter.

The diet was milk and lime-water, together with cracked ice.

After passing a comparatively comfortable night, the pulse was found at 6 A.M. of Sunday, July 3d, to be 116; respirations, 18; and temperature normal. During this day the patient remained quite easy, being still under the influence of morphine, and complaining only occasionally of the tingling sensations in the feet. The pulse ranged from 108 to 114 and temperature remained normal until 10.30 P.M., when the former rose to 120, the temperature to 100° F., and the respirations to 20 per minute. There was complaint of increased pain in the feet, and the patient was nauseated and restless. Some tympanites began to show itself at this time. In the course of the next two hours, shortly after midnight of Sunday, the pulse was reduced to 112, temperature to 99.8° F., and respirations to 20 per minute. The pain in the feet also became less marked.

On Sunday afternoon Dr. Frank H. Hamilton, of New York, and Dr. D. Hayes Agnew, of Philadelphia, were called in consultation, and arrived on the morning of July 4th.

A consultation was held, July 4th, 7 A.M., at which were present Drs. D. W. Bliss, J. K. Barnes, J. J. Woodward, and Robert Reyburn, of Washington; Dr. Frank H. Hamilton, of New York; and Dr. D. Hayes Agnew, of Philadelphia. The pulse was then 108, temperature 99.4° F., respirations 19. There was some tympanites present, but there was no pain on pressure nor rigidity of the abdominal walls. It was concluded that the tympanitic condition was in a great measure due to the morphine taken, as was also the more or less persistent nausea. Up to this time the patient had been taking by hypodermic injection a quarter of a grain of morphine every eight hours. An examination of the wound confirmed the diagnosis of Dr. Bliss and previous consultants as to the general direction of the missile, but no positive conclusions were arrived at as to the position of the ball or the extent of injury it had inflicted. It was discovered, however, that in addition to the other injuries there was a splintering of the upper margin of the eleventh rib. The general impression appeared to be that the ball had perforated the lower margin of the right lobe of the liver, and had escaped into the abdominal cavity.

No evidence of its probable location could be made out. The area of dulness around the liver had not increased since first noticed, and there was but slight tenderness on pressure over the part. There had been no movement of the bowels since the injury, but during the consultation the patient had occasional desires in that direction. It was concluded best to allow Nature to take her course in this matter, and no medication was advised to assist her. The patient was perfectly rational, and conversed with Prof. Hamilton on matters unconnected with the shooting. The wound itself looked well, and showed no undue amount of inflammatory action. The result of the consultation was a general endorsement of the treatment pursued, with a recommendation to decrease the dose of morphine from one-quarter to one-eighth of a grain every eight hours. The particular reason for this being that the pains in the feet had disappeared, and in a general way there was no further reason for the use of the drug in such doses. It was also agreed to give the nourishment more frequently and in small quantity.

At 12.30 P.M., July 4th, there was but little change in the condition of the President. Slight pain in the feet was complained of, and there was occasional and slight vomiting. The pulse was 110, temperature 100° F., and respirations 24.

5.15 P.M.—A small quantity of chicken broth was taken and retained.

7.35 P.M.—Pain in the feet still present to a slight degree. Tympanites more noticeable. Pulse 126, temperature 101.9°, and respirations 24.

10 P.M.—No vomiting for past two hours. Pulse 124, temperature 101° F., and respirations 24. At midnight the temperature and pulse had fallen, and he was sleeping quietly. During the evening

he had a full and natural evacuation from the bowels.

July 5th, 8.30 A.M. – The patient passed a comfortable night. No vomiting since last evening at 8 o'clock. Less tympanites and no abdominal tenderness except in the hepatic region. Pulse 114, temperature 100.5° F., and respirations 24. Only one-half a grain of morphine had been administered during the previous twenty-four hours.

At 4.15 P.M. the pulse had fallen to 104, and the patient was resting quietly. 8.30 P.M., pulse was 106, temperature 100.9° F., and respirations 24.

July 6th.—The patient passed a comfortable day, and his general condition remains favorable. Thus, at the time of going to press, the outlook of the case is reasonably promising, although, for obvious reasons, the prognosis is as yet necessarily quite uncertain.

In looking over the general history of the case it is fair to conclude that there is room for a great deal of doubt not only regarding the locality of the missile, but its precise direction. By the system of exclusion we may conclude that neither the lung, kidney, nor portions of the intestines are wounded. It is a legitimate assumption that no large vessel was injured, as the internal hemorrhage was comparatively inconsiderable. The introduction of intelligent fingers into the wound proved that the abdominal cavity was entered. But the penetration to the length of the little finger does not allow of much exploration of a cavity which must be reached in the situation of the wound through the thickness of adipose tissue and muscle of a patient markedly obese and weighing upward of two hundred and twenty pounds.

It does not seem possible to distinguish under the circumstances the tissue of the liver from that of the surrounding organs. It seems proper to assume that the liver has been entered, inasmuch as it is directly in the way of a ball penetrating between the tenth and eleventh ribs and taking a general forward direction. The upper margin of the right kidney is considerably below this point, as is even the upper margin of the right suprarenal capsule. Neither of these organs would be in danger unless the missile had been deflected almost directly downward after its entrance. But everything so far proves that neither of these organs have been touched. Another point in favor of wound of the liver is the venous oozing after the first exploration with the finger. This might be considered more significant of an injury to this organ than the internal hemorrhage, although the limitation of the latter to the hepatic region deserves prominent recognition in such a connection. It is somewhat difficult to reconcile the statements that the tenth rib was fractured, as if possibly struck by the ball, and that the upper margin of the eleventh rib was also splintered. The ball was certainly not large enough to touch both points at once on its entrance. If it struck and glanced and entered the liver at all, it must have been lodged in that organ. Under such circumstances it would be quite as likely to enter the substance of any of the tissues in the neighborhood.

But the greatest difficulty has been to explain the reason for the tingling sensations following the injury and their markedly persistent character. Of course the first idea that suggests itself is that the spine had been in some way injured. But the ball did not seemingly take such a direction. In the absence of any other plausible theory it would seem that these nervous symptoms were purely reflex, either from injury to some portion of the lumbar plexus or to some of the filaments of the great splanchnic nerve. We have reason to believe that the consultants were more inclined to such an explanation than to any other that had been offered. If such an assumption is correct there can hardly be a doubt that the missile must have perforated that portion of the liver intervening.

At present it does not matter, so far as the general symptoms are concerned, what is the precise locality of the ball. The patient is doing well and appears to have tided over the immediate dangers of the wound. Its after-effects, in the shape of possible secondary hemorrhage, abscess, sloughing, and the usual pathological processes attending gunshot wounds in that region, must, however, be viewed with the gravest anxiety. But we are privileged to hope for the best. This we have good reason for doing, considering the strong vital powers of the illustrious patient, and the skilful and judicious treatment he has received from the first moment of his injury.

If there is any criticism to be offered from a medical point of view, it is that there were too many physicians in attendance during the first twenty-four hours. Not that there was any disagreement as to the plan of treatment; but there is always danger to the patient when too many medical heads are put together. Sir James Paget is reported to have said that he considered himself fortunate to recover after six doctors had been in attendance upon him, and we know of another surgeon who survived the continued consultations of twelve of his confrères; but such cases are notable chiefly for their rarity. Fortunately, in the President's case, the difficulty was promptly met, and with the least possible discourtesy to the parties directly concerned.

It was certainly a wise forethought on the part of those who had charge of this important case to avail themselves of outside talent in their consultations. The selection of Drs. Frank H. Hamilton and D. Hayes Agnew as consultants was eminently wise and proper. No more representative men could have been selected from any part of the United States, and no choice could have been made more satisfactory to the profession or to the country at large.

## Reviews and Notices of Books.

MR. PERKINS' DAUGHTER. By the MARCHIONESS CLARA LANZA. New York: G. P. Putnam's Sons. 1881.

THE novel before us has a claim upon medical attention because a certain curious pathological condition, characterized by double-consciousness, is worked into the plot.

Mr. Perkins' daughter, though the heroine of the book, is not the one that becomes subject to this interesting morbid state. She is the daughter of a Kansas millionnaire, and has herself been brought up in New York, and gradually develops into an interesting heroine. She falls in love with one young man, and, upon his proving unfaithful, at once discovers that she has been in love all the time with another, whom she very soon marries. There is introduced into the story, meanwhile, a German fraülein, of lovely person and highly emotional temperament. This latter lady falls in love with Miss Perkins' first lover. Upon hearing that he is engaged, she falls into a trance-coma. From this she gradually emerges, but appears considerably changed in her mental condition. Her loveliness of person and disposition, however, continue unchanged, and she manages to turn the affections of Miss Perkins' *fiancée* from that young lady to herself. This inconstant hero is a very conceited American youth, who is wealthy, scientific, and free-thinking. He abhors the bible, but is never without a copy of "Evangeline." The sweetness and submissive devotion of the entranced fraülein wins his already plighted heart, and he gets released from Miss Perkins. An eminent physician has declared that the fraülein's condition is an abnormal one, and that she does not know what she is about. But the young man knows better, and the two become engaged. Shortly after this pleasant consummation, the young lady is restored to her normal condition, and declares that she knows nothing of her life subsequent to the event which threw her into the trance. Her lover receives his *congé*; he has lost both young ladies and he takes the steamer at once for America.

The fact that there does occasionally exist mental disturbances in which the person lives another kind of conscious life is well established. Indeed a similar condition may be produced temporarily in many trance subjects. In actual life, however, it would be impossible for such a condition not to be recognized. The most infatuated lover could not fail to see the narrowed range and lack of spontaneity in the mental life of the subject. The occurrence woven into this story is an utterly impossible one in its details. And there is perhaps a certain amount of danger in relating such incidents as probable to the general public. Still, we must admit that the facts of pathology are very ingeniously utilized, and are stated with sufficient accuracy for a work of fiction.

Regarding the work as a whole, we should say that it had rather more of merit than the average summer novel.

The author has the courage and skill to draw an imperfect hero, and also to make the incidents of the story change and develop the character of the heroine. We should warn the reader that the first half of the book is decidedly dull; the descriptions given are only tolerable; the conversations are common-place, and the characters have not yet developed anything but what rather repels than excites the sympathy. Much more vigor is displayed in the latter part of the narrative.

A TREATISE ON THE CONTINUED FEVERS. By JAMES C. WILSON, M.D., with an Introduction by J. M. DA COSTA, M.D. New York: William Wood & Co. 1881. Wood's Library of Standard Medical Authors.

THIS work contains chapters upon simple continued fevers, influenza, cerebro-spinal fever, enteric typhus, and relapsing fever, and dengue. The merits of the book are that it presents these subjects quite fully and clearly, yet not with burdensome elaboration. Though the facts recorded have been industriously compiled from all sources, yet the book withal has something of an American character, especially in the matter of history, symptomatology, and treatment.

On the other hand we have looked in vain for anything especially new in it. The author has been chary of giving his own views, experiences, or investigations, if any such he has made, and the work consequently lacks the stamp of individuality. We should have been glad to have found in it, also, something in regard to the pathology of fever.

However, the treatise is an interestng one, and will be found very useful, especially to American practitioners.

A MEDICAL FORMULARY, based on the United States and British Pharmacopœias, together with numerous French, German, and unofficinal preparations. By LAURENCE JOHNSON, A.M., M.D. New York: William Wood & Co. 1881. Wood's Library of Standard Medical Authors.

THE design of this work, the author states, is to present, in a manner convenient for ready reference, the drugs and preparations in common use, together with formulæ illustrating the manner in which they are combined. Besides the regular Pharmacopœias, various hospital formularies have been drawn upon, also the note-books of some prominent physicians of this city. Much labor has evidently been expended by the author, and the book will no doubt, be found a convenient one.

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A BIOLOGICAL COURSE AT PRINCETON COLLEGE.—Princeton College is to have a post-graduate course in biology, the step having been taken with the hearty co-operation of President McCosh and several members of the Board of Trustees. It will be established in connection with the Geological and Zoological Museums. The avowed objects of this course are to foster a spirit of original research and to qualify advanced students to become teachers. A course of lectures is proposed in which prominent part will be taken by Profs. Arnold, Guyot, George Macloskie, LL.D., Henry B. Cornwall, A.M., E.M., W. E. D. Scott, B.S., and others equally eminent. The courses leading to a degree are open to graduates of colleges and recognized medical schools; other students may attend the lectures and laboratory work, but will not be eligible for a degree.

AT THE U. S. MARINE HOSPITAL SERVICE EXAMINATIONS, recently held in Washington, there were somewhat over a dozen applicants. All failed to pass, however. The next examination will be held in the coming fall.

# Reports of Societies.

## NEW HAMPSHIRE MEDICAL SOCIETY.

*Ninety-first Annual Meeting, held in Concord, June 21st and 22d.*

It was a large and enthusiastic meeting for a small State, there being one hundred and twenty-five members present, and delegates from Massachusetts and Vermont.

The meeting was opened at 11 A.M., the president, Dr. G. P. Conn, occupying the chair, and for an hour the society was principally engaged with routine business, and in listening to the report of the council, which met the evening previous, and attended to all the new business, and to the applications for membership. Their report was accepted, and sixteen new members were elected upon their recommendation, who appeared and were welcomed into the ranks of the society.

At twelve o'clock the president read his annual address, a paper that is required of the presiding officer by the organization of the association.

After making a few suggestions as to the appointments and management of the society, Dr. Conn devoted about thirty minutes to the department of State medicine. He commenced by defining the term, "as being the care the State may reasonably be expected to exercise over the life and health of individuals; to investigate into the causes of epidemics and other disease, in order that each citizen may not only have as long a life as nature would give him, but likewise as healthy a life as possible."

He remarked that the term State medicine was of recent origin, but the idea was not a modern innovation, and showed that ancient history informed us that sanitation was once considered an important factor in the prosperity of the Greeks and Romans, and that it was in consequence of their observance of hygienic rules and regulations that they were accorded that dominant position among all the nations of the world, and that when they failed to recognize State medicine came the decline of their great power, and sanitation became one of the lost arts, filth and pestilence prevailed, and crime and pauperism took the place of good order, health, and prosperity. "Nemesis held the sceptre and Momus was her chief executive officer."

"The laws of health were disregarded and, consequently, each succeeding generation became a striking illustration of retrograde civilization." "The doctrine of predestination, as promulgated by St. Augustine, was seized upon by a people made fanatical by ignorance and superstition and was deemed a sufficient explanation of all that was transpiring, and the measureless waste of human life was considered an illustration of the principles of foreordination."

The speaker referred to what had been done in this country since the establishing of the first board of health in Massachusetts, in 1869, the interest of the profession in the National Board, the position accorded to the subject by the American Medical Association giving it a section, and to the fact that the people were year by year becoming more and more interested in investigating into the causes of disease, and adopting measures that offer any hope of preventing sickness.

He said: "It is but natural that the public should look to us, as representatives of the profession of medicine, to point out the way, and become the leaders of public opinion in a matter that our education should fit us to be the advance guard. Yet it is a humiliating fact that less than half a dozen of our medical colleges have given it the dignity of a professor's chair, or even refer to it as being of sufficient importance to be included in their curriculum of study.

New Hampshire has always been considered a healthy State in which to live, and that there need be no apprehension of epidemic and infectious disease, yet it was shown that near the close of the last century an epidemic of malignant sore throat prevailed in the eastern section of the State that from all accounts must have been much the same disease as the diphtheria of the present day; that typhus and spotted fevers prevailed about 1830; in 1843 erysipelas, in a malignant form, swept down the valley of the Connecticut from its source to tide-water; in 1855 a malignant form of dysentery was alarmingly prevalent in the interior, and "there is hardly one present but can recall one or more towns in which diphtheria has not been epidemic within the past twenty years."

The speaker then commented upon the care the State was expected to exercise over dumb animals, and said, "when an epidemic occurs among the cattle that are scattered over our hillsides, the governor and council are at once petitioned to afford such relief as may be possible by instituting an investigation into the causes of the disease, and preventing its contaminating influence upon other herds.

"This was done soon after 1850, and again during the winter of 1879–80, when an epidemic of small proportions appeared in a fine herd of cattle in the town of Haverhill, when the governor was importuned by the owner and others for aid as *provided by the statute.*" A commission was appointed, who attended to their duty faithfully, when it was found that less than a dozen of the herd were affected, some five or six died or were killed during the investigation, when it was concluded that a little more intelligent sanitary care of the cattle and their surroundings would have prevented the disease, yet the owner has since asked the State to pay him for the cattle.

The speaker claimed that it was but justice toward the agriculturalist to make this investigation, but said that it would appear more consistent for the State to exercise the same care over the human family that it did toward the brute, and said "that at the same time this investigation was in progress in the same county there was an epidemic of diphtheria prevailing, where, in less than one month, and in a radius of less than six miles, there were twenty-eight cases, with seventeen deaths," yet there was no investigation by State authority. After commenting on the fact that a herd of cattle represent a pecuniary value, and as such claimed protection, it was shown that the State would not prosper without the capital invested in the physical force of its inhabitants; and thus representing a value they were entitled to the protecting influence of State power. He claimed that it was the duty of the State to enact legislation to prevent people from living in unhealthy houses, using polluted water, sophisticated drugs and food, as it was to pass laws to suppress intemperance or prevent crime, and as illustrating the dangers of the one compared with the other asked the society if they ever knew of seventeen out of twenty-eight persons addicted to intemperance to die in twenty days? In closing he urged every mem-

ber to labor earnestly in securing the passage of an act to establish a State board of health.

The report on surgery by DR. A. H. CROSBY, besides a review of the progress made during the year, contained the reports of several interesting cases.

DR. JONES, of Portsmouth, read a paper on "Nihilism in Medicine," in which he claimed that conservatism and infinitesimalism were equally culpable in destroying faith in the science of medicine, and that a more hopeful view should be taken.

DR. FELT, of Hillsboro, advocated, in a well-written paper, hypodermic medication, and DR. PARSONS, of Portsmouth, read an able paper on "Puerperal Convulsions." PROF. FROST, of Hanover, gave a short paper on "The Etiology of Typhoid Fever," and DR. KIMBALL an essay on "Conservatism in the Treatment of Certain Forms of Acute Disease."

The Committee on Necrology reported at the evening session.

On Wednesday the papers and cases were discussed, and the following officers elected:

*President*, Dr. H. B. Fowler, Bristol; *Vice-President*, Dr. A. H. Crosby, Concord; *Treasurer*, Dr. D. S. Adams, Manchester; *Secretary*, Dr. G. P. Conn, Concord; with a Council of twenty and a Board of Censors of ten members, and the society adjourned to meet in Concord on the third Tuesday in June, 1882.

## NEW YORK NEUROLOGICAL SOCIETY.

*Stated Meeting, May* 3, 1881.

DR. T. A. MCBRIDE, PRESIDENT, IN THE CHAIR.

DR R. W. AMIDON presented some specimens illustrating the

### PATHOLOGICAL ANATOMY OF CHOREA IN THE DOG.

The speaker said that the subject of chorea in the dog was first investigated by Drs. Gowers and Sankey, in an article entitled "Pathological Anatomy of Canine Chorea." They had two cases of chorea, having symptoms resembling chorea electrica. These observers found very grave lesions in the cord and medulla oblongata, but no lesion in the brain. The lesions in the cord were quite diverse: they consisted in infiltration in various regions, particularly in the lateral parts of the cord. There were also areas of disintegration, proliferation of neuroglia cells, and vacuoles in the motor cells of the anterior horns, which have more recently been noted as appearing in some cases of myelitis. They also assert that the motor cells of the spinal cord are excessively granular, and that the cells of Purkinje are also very granular. The lesions in these two cases did not tally very well, and it is rather hard to attribute the symptoms, which they mention, to the lesions found *post-mortem*. They were very serious lesions for a disease apparently so mild as this one.

Two years ago Dr. James J. Putnam had written an article in the Boston *Medical and Surgical Journal*, giving an account of a very minute examination of two cases of chorea in cats, in which he found no lesions at all.

The speaker said that he had had the good fortune to become the possessor of the entire spinal cord of a dog that had had chorea in the hind legs. This specimen was given him by Prof. Charcot. The history was that of typical chorea of the hinder extremities. The animal had been killed in such a way as to avoid any congestion of the spinal cord. The only lesion found upon examination was a complete filling of the central canal with an amorphous matter that stains very readily with carmine, and there is also an exudation in the perivascular spaces, particularly in those of the gray commissure and anterior horns. (Specimens illustrating these lesions were shown.) It was shown that for most of the extent of the central canal the lining epithelial cells were desquamated and thrown off.

In the discussion that followed, DR. L. C. GRAY said that, interesting as were these specimens, they did not seem to throw much light on the subject of the pathology of chorea.

DR. E. C. SEGUIN said that he was doubtful of the existence of any organic changes in chorea. He believed that it was a disorder of the cerebrum, and not of the spinal cord.

DR. MARY PUTNAM-JACOBI said that an article had recently appeared by Arndt, entitled "Chorea as a Psycosis." She took the view which seemed to her the correct one: that psychical changes always accompany or form part of chorea in children. There was almost always a marked change and impairment in their intelligence.

DR. SPITZKA inquired on what ground it was asserted that the disease which the dog had was chorea.

DR. AMIDON said that he had been told by Charcot that the case was a typical one of chorea. He said, also, referring to the theory of a cerebral origin of the disease, that, in one of the cases reported by Gowers, the spinal cord had been cut just below the medulla, without producing any effect on the choreic movements.

DR. SPITZKA thought that there were two distinct diseases in the dog to which the name chorea was generally given. One of these, and the rarer, was that known as genuine chorea; the other was one that might follow organic changes, such as paraplegia. True chorea he did not believe could be limited to the hind legs. In true chorea, there is no organic lesion. He did not think that there was any cerebral disturbance in chorea in children. The effects observed were due, he thought, to want of coordination in, or twitching of, the muscles. This might mislead the observer, unless a careful study of the symptoms was made.

In this opinion he was strongly opposed by Drs. Jacobi, Seguin, and others.

DR. SEGUIN presented a case of

### INTRACRANIAL TUMOR.

The patient was a man, thirty years of age. About six years ago he had begun to have convulsions. At the same time, he noticed a prominence appearing on the top of his head.

The convulsions appeared at intervals of four or five weeks. They were at first unilateral, attacking the foot first, then the arm, after which the patient lost consciousness, and the spasms became general. He could sometimes tell about half an hour beforehand when the attacks were coming on. He usually vomited during or after the attack. He had no other bad symptoms; no nausea or headache; and his eyesight was good.

Examination of the patient's head showed a remarkable development on the top of the cranium. There was evidently an intracranial tumor there, nearly as large as the two fists. It was situated in the median line. Its growth had separated the bones, and the open sutures and line of demarkation of the tumor could be felt. The measurements of

the tumor and cranium were given, and showed a remarkable increase in the vertical diameter of the head. There was evidently a tumor pressing down upon the brain; the symptoms were in part what might be expected from its situation. Examination of the eye showed neuro-retinitis. The patient's vision, however, as stated, was not impaired as yet. There was slight loss of power on both sides of the body, but more marked on the right side.

The tumor was important in connection with the doctrine of localization. It pressed upon the centres for motion in the arm and leg, parts whose muscular power was manifestly affected.

The patient had been put upon iodide and bromide of potassium and chloral. He had denied syphilis, but had improved under treatment.

Some of the few other similar cases that had been reported were referred to by the speaker, and discussed.

## Correspondence.

### CONCERNING THE CASE OF MICROCEPHALUS.

To the Editor of The Medical Record.

Sir—The following facts seem to have escaped the scrutiny of the author of a paper entitled "Case of Microcephalus," appearing in the Record of June 11th. 1st, that a persistence and prolongation of the transverse occipital sulcus has been recorded by Sander with a lunatic, by Meynert with a sane man, and by myself in the case of an imbecile; 2d, that these cases of the so-called "Affenspalte" do not represent reversions to, nor strictly correspond to the simian type; 3d, that the anomaly of the fissura calcarina noted has been observed by Parker in the case of negroes; 4th, that the asymmetry observed in the disposition of the gyri of the brain described can hardly be interpreted as a tendency to "return to that type . . . . that constitutes such an important characteristic of the higher organization," for in the case of most microcephali studied there was found not only a simple defect, but also great irregularity in development. In fact, atypical asymmetry is one of the frequent and most marked features of idiotic and imbecile brains. The asymmetry of the microcephalic brain should be rather interpreted as an evidence that all cases of insanity and mental defect of the constitutional kind, from that of the plausible systematic delusional lunatic to the non-viable microcephalus belong to one great teratological group.

It does not appear from the experience of those who have confined a large number of women, and have had an opportunity of watching the development of the offspring that there is any such relation between the position of a child *in utero* or *in* space and the development of its brain, such as Tager is quoted in the paper referred to to claim. It seems to me that the constitutional tendency on the part of the mother to miscarry may offer a more satisfactory etiological solution of the problem than the one suggested. With such a tendency, the fact has been frequently observed that such children as are born are imperfectly developed in some one or other respect, while where from disease or other cause the mother has been compelled to occupy the recumbent posture during the greater and especially the latter part of pregnancy, no cerebral defect has been noted to occur with that relative constancy which we should expect if any theory based on the law of gravity were a correct one. On the contrary, there are not a few cases on record where a fracture or other surgical injury happening to the mother has affected the child, not in its nervous development, but in some other respect, although the recumbent position was necessarily maintained.

The observations of Luys, quoted in the paper mentioned, are very imperfect, due regard not being paid to the fact that the nerve-cells of the infant do not show that richness of processes found in the adult. It is difficult to see how there could be an "increase in the neuroglia" in the case published in the Record, if the ganglionic elements were normal in number, size, and arrangement—*non bis in idem*. In such cases I have found the barren layer of the cortex relatively thicker than in health, and the cells more sparsely scattered.

There certainly is a connection between vascular anomalies and defects in cerebral development in a considerable proportion of cases, as witness the excellently described one of Muhr. Dareste has shown that deformities bearing on this question can be artificially produced, and the weight of evidence seems to be in favor of assigning such monstrosities to a defect of the energy of epiblast development, with a resulting preponderance of the connective tissue forming mesoblast. Yours, etc.,

E. C. Spitzka.

New York, June 28, 1881.

### A NEW TREATMENT FOR EPITHELIOMA.

To the Editor of The Medical Record.

Dear Sir: In the spring of 1876, Mr. C—— of this place, a shoemaker at that time, seventy-five years of age, noticed the appearance of a growth upon his left temple. I first saw it in the following September, when it appeared as a well-defined epithelioma. Several of the local physicians examined it individually at about this time, and their opinions as to the nature of the sore were the same.

About the middle of November, Prof. Donald MacLean of the University of Michigan, removed the growth before his class in surgery. The size of the ulcer at this time was about that of a silver twenty-five cent piece. The sides of the wound, which was about two inches long by one and a half wide, were drawn together and it readily healed.

In the spring of 1877 the epithelioma again made its appearance in the same place. A number of mild caustics and palliative remedies were used until the middle of November following. At this time the cancer was making a rapid progress. The ulcer was an inch in diameter. The infiltrated surface was some three or four inches square, extending from the ear forward to and including a portion of the conjunctiva and sclerotic. Mastication was interfered with, and he suffered greatly from the characteristic pains.

He now began the use of hot water four or five times daily, bathing the affected surface with it, and holding the side of his face in it, using the water as hot as he could bear it. Within a week the "darting burning pains" ceased and the face assumed a more natural appearance. He continued this treatment until the following May, when a cure had been effected. It is now three years since he ceased all treatment and there has at no time been any signs of a recurrence.

There seems to be no room for doubt as to the diagnosis given. The manner of the appearance of the growth, the character of the ulcer and its recurrence after removal, make sure of its malignant nature. As regards the use of the hot water, two theories of its action occur to me.

It has been determined that malignant growths depend for their existence upon the formation of certain cells. It is not unreasonable to suppose that a temperature of 120° to 130° F. would destroy the active life of the cells. It has been shown* that at a temperature of 104° F. the activity of the leucocytes ceases and their substance hardens.

One of the results of the application of hot water is a stimulation of the vaso-motor system, thus aiding nature in removing morbid products and in arresting morbid changes. The value of the use of hot water in surgery has been demonstrated.† I need not enlarge upon this theory of the manner in which the life of the growth might have been destroyed.

A. H. PHINNEY.

HOWELL, MICH.

## CAN A MAN GRADUATE WITHOUT HAVING SEEN A CASE?

TO THE EDITOR OF THE MEDICAL RECORD.

SIR—Apropos of the question, "Can a man graduate without having seen a case?" in your journal of April 2d, it occurred to me that a *résumé* of the German Staats-Examen for Doctors might not be uninteresting to many of your readers, who may not be familiar with its details.

The conditions of admission to the examination are, that the candidate, as he is called, shall furnish evidence, 1, of having taken the prescribed courses in the gymnasium and at some university; 2, of having passed the examination in the natural sciences; 3, of having spent at least two semesters at a surgical and at a medical clinic, and of having taken charge personally of at least four labor cases at an obstetrical clinic.

This done, the candidate is examined in the following subjects, in their order:

1, Anatomy, physiology, and pathology; 2, surgery and ophthalmology; 3, medicine (theory and practice); 4, obstetrics and gynæcology.

Then follows a final oral examination, in which the candidate is expected to give public proof of his "general medical culture" in "such general and special matters of pathology, therapy, surgery, obstetrics, pharmacy, and *state medicine or hygiene*, as a doctor ordinarily meets in practice."

The examination falls into two parts, the theoretical and the practical. The theoretical consists of a quiz, lasting from ten to thirty minutes, on each of the topics, and these are conducted as with us.

The practical is very practical. In anatomy, the candidate must demonstrate preparations handed to him, and must himself dissect and demonstrate some nerve. He is given several days in which to make the dissection.

In physiology, besides having physiological exercises, he must make preparations for the microscope, demonstrate them, and "show his readiness in the use of this instrument."

The "marks" which the examiners use are "excellent," "very good," "good," "middling," "bad." Having received "good" in these subjects, the candidate may pass on, otherwise he must wait a while and begin again.

In surgery and ophthalmology, the candidate visits the hospital or university clinic with the examiner, and is assigned a case, of which he must give a diagnosis, prognosis, and plan of treatment. He is now left in a room alone with pen and paper, and given till late in the evening to write up the case. For the next seven days he must visit the case twice a day, and keep a journal of it. During this time he is examined on other cases which there may be in the ward, and required to show his readiness in minor surgery and in the use of the ophthalmoscope. He is also required to perform operations on the cadaver; give their value and indications; put up fractures; reduce luxations; and put on bandages.

In medicine, the same plan is pursued. The candidate is also required to write from ten to twenty recipes for pills, mixtures, etc., and to point out from fifteen to twenty medicines, and give the maximal and minimal doses of the same.

In obstetrics, the candidate is given a labor case to attend, and by the next morning after the birth he must return a written account of the same. He must visit the case and keep a journal of it for seven days, during which time he is examined on any other obstetrical and gynæcological material in the wards. He must prove his manual skill in turning, application of the forceps, etc., on the phantom.

All this requires about three months. Having passed through it successfully, the candidate is made a "Practicirender Arzt."

The degree of Doctor of Medicine is more an honorary title, to be obtained afterward by writing and defending a thesis.

The difference between this sort of examination and our five-minute quizzes, is too manifest to need pointing out. It seems to me that our medical journals could do no better service to medical progress in America, than to publish occasionally an "educational number," containing a *résumé* of facilities for medical studies, requirements for doctors, degrees, etc., in the different civilized countries, after the manner of the *London Record* and *Le Progrès Médical*. If American physicians, and medical students especially, were thoroughly acquainted with the standards in foreign countries, they would not long remain contented with the inferiority of our own.

Yours respectfully, CHARLES H. HUNTER.

STRASBOURG, May 13, 1881.

## NOTES ON THE ACTION OF CURARE ON THE MOTOR-NERVE ENDINGS.

### A REPLY TO DR. POOLE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In a recent article in the RECORD (May 27th) by Dr. Poole, the action of curare on the motor-nerve endings, as interpreted by the leading physiologists of the day and accepted by the scientific world, is discussed at length, and an endeavor made to prove that because certain possible fallacies attended the performance of the experiments, that it was the "duty of medical science to decline to accept the presumption that the ordinary effect of curare is to paralyze the motor-nerve endings and terminal filaments until other and reliable proof is offered in its behalf." But we cannot agree with the conclusions of this writer, which for obvious reasons are unjustifiable, and entirely unsupported by adequate proof—in fact, no proof at

* Williams: Pulmonary Consumption, p. 54

† Dr. Frank H. Hamilton in MEDICAL RECORD of May 15, 1874.

all save those of imagination, as we will learn from a discussion of his article.

From the results of the experiments made by Dr. Foster with curare on the frog, and which are quoted in Dr. Poole's paper, we learn:

*First*, That curare produces paralysis of voluntary motion and respiration, and sometimes causes mydriasis, strabismus, and convulsions.

These effects he (Dr. Poole) concludes point to an action on the *motor centres*.

*Second*, That electrical stimulus applied to the exposed sciatic nerve of a poisoned frog is unable to cause contraction in the muscle.

This he attributes as being due to a paralysis in the *motor trunk*.

*Third*, That if the muscle is now exposed, and an electrical current is applied directly to it, a contraction will result.

This he concludes *is because the terminal branches of the nerve are still irritable, and consequently are in a condition to be acted on by electricity in the usual manner*.

*Fourth*, That after tying the blood-vessels supplying the posterior extremities, by placing "a thread very tightly round the abdomen of a frog so as to check entirely the flow of blood to the lower limbs," and in such a manner that the functions of the sciatic nerves are not interfered with by compression of the ligature, that movements take place when stimulus is applied to a sensory surface in the posterior extremities in which the nerves are unpoisoned, but not in the anterior extremities.

"These nerves," he says, "being thus entirely free from compression and in full continuity with the spinal cord, are just as favorably situated for receiving a *paralyzing impulse from the cord*,* as are the motor nerves connected with the cord higher up. Why should they not be equally paralyzed as the nerves leading to the anterior extremities, for example, seeing both are equally susceptible to receive impressions from the cord?"

*Fifth*, That after ligating the blood-vessels of the right leg of a frog and thus preventing the access of poison below the ligature, and then poisoning the frog with curare, movements may be produced in the right lower leg, but in no other part of the body; and that if the nerve be exposed in both legs, the left (poisoned nerve) does not reply to stimulation, but the right (unpoisoned) does.

*Sixth*, That if a muscle be insulated from the rest of the body, except the motor nerve, and the frog poisoned, it is found that stimulation of the motor nerve will cause a contraction of the muscle when all the other motor nerves of the body seem to have lost their irritability; and that if only a small portion of the nerve immediately next the muscle be protected from the poison, the muscle may be made to contract by stimulus applied to any portion of the nerve-trunk.

Dr. Poole states that the first experiment proves "as fully as any physiological fact can be proved, that the ordinary effect of curare (or urari) is to paralyze the motor-nerve trunks and to spare the terminal nerve-branches." But just what experiment he means by "the first" is rather incomprehensible, for it certainly cannot mean the first one given, as there is nothing whatever in the result which would justify such a conclusion; and moreover, he concludes that the result points to an action on the motor centres. Nor can there be found in a single experiment quoted, proof to warrant such an assertion. Again we come in conflict with the uncertain "first experiment" when he states that "the after experiments are tainted by too many sources of fallacy to prove anything definite; but even as they stand they admit of a rational explanation in full accord with the results of the former experiment;" but still, as it is evidently meant that the paralysis of the nerve-trunk is the fact with which the explanation will accord, we can pass any unnecessary discussion by. However, when we come to critically examine Dr. Poole's deductions and assertions, we find them, on the whole, extremely illogical, and more in accord with the physiology of a generation ago than of the present day. His first conclusion is admissible, for there is sufficient evidence in the results to indicate that the drug does act on the motor centres. His second deduction is certainly unwarrantable, and there is no proof to sustain it, for it is certain that in a muscle-nerve preparation (which essentially we have in this instance) there are three physiological factors to consider in an experiment of this nature: 1, the condition of irritability of the nerve-trunk; 2, the condition of irritability of the nerve peripheries; 3, the condition of irritability of the muscle. Now, it is undoubtedly clear that nothing is proven by the result of this experiment, except that one or more of these factors are wholly or partially destroyed, and therefore, to assume that the *trunk* of the nerve shares the paralysis, without first deciding that neither the nerve peripheries or muscle is affected, is to assert what is unsupported by adequate or justifiable proof.

How to decide which of these three factors was concerned in this paralysis, as implied by the non-appearance of contraction of the muscle when the motor nerve was stimulated, was the object in the succeeding experiments, the first of the series being to make a direct application of electricity to the exposed muscle, and which was with the result of having a marked contraction follow. Now what does this prove? Certainly that the muscle possesses irritability, and that the paralysis must either be due to a paresis of the motor trunks or peripheries. But with this conclusion the writer does not agree, for he asserts that the reason why the muscle contracts by a direct application of stimuli is because the terminal branches of the nerve are still irritable, and he considers this a "very natural and rational explanation;" but which, as we think, is the very opposite. Over a century ago Haller* taught us that nerves and muscles possessed independent irritability, speaking of the nerve as possessing *vis nervosa*, and of the muscle as possessing *vis insita*, the former signifying the irritability which excites contraction, and the latter as the independent contractibility or irritability of the muscle. Since his time we have added certain facts going to certify to the correctness of the existence of independent muscular irritability: 1, if the lower end of the sartorius of the frog, which is destitute of nerves, is stimulated, distinct contraction of its substance will ensue; 2, if a minute portion of a muscle deprived of all nervous structure be placed on the stage of the microscope, it can be made and seen to contract; 3, chemical substances are different which stimulate nerves and muscles; 4, contractility is one of the fundamental properties of protoplasm, and occurs in organisms in which no nervous system whatsoever can be detected; 5, that after a nerve has com-

* The italics are mine.

* De Part. Corp. Hum. sentientibus et irritabilibus, 1753.

pletely lost its irritability, the idio-muscular irritability of the muscle may be elicited.

Now, the great mistake which we believe Dr. Poole makes in criticizing the results of these experiments, is in considering that the muscle does not possess independent irritability, but depends upon the irritability of the terminal branches of the nerve alone for stimulus to cause its contraction, evidently viewing these nervous structures as being mediating centres as it were, which are alone capable of receiving and transmitting the impulses which elicit muscular contraction; and he appears to be led into this error by misunderstanding a remark of Dr. Foster's, stating that "a muscular contraction is a token of an impulse passing along the nerve" to the muscle; but Dr. Foster certainly could not and did not imply the meaning as construed by Dr. Poole, for it is well known, from what has already been stated, that the motor nerves are but a single channel for conveying impulses capable of inducing muscular contraction. Dr. Poole states that "the proof that the terminal nerves were not poisoned in the first experiment, is that the muscular fibre contracted by the direct application of electricity." But, that this is no proof at all, is apparent from what has already been said.

Considering the fourth proposition, it is certain that the poison was prevented from gaining access to the posterior extremities, and, therefore, in so far as this toxic agent was concerned, the structures below the ligature remained in a normal condition. It is now apparent that if stimulus is applied to any sentient surface, if the sensory nerves and peripheries are intact, the impulse will be conveyed to the centres, and, if these centres were intact, would be reflected out through the motor nerves to the muscles. These experiments certainly show that the sensory nerves and spinal centres must be intact in the poisoned animal, as they were in this case, or they certainly could not convey, receive, and transmit impressions to the unpoisoned nerves, and, through them, to the muscles of unpoisoned limbs. Now it is certainly very clear that if the impulses are reflected through the unpoisoned legs alone, that the seat of paralysis must be either in the motor trunks, peripheries, or muscles. As already stated, Dr. Poole believes that this is further evidence to prove that the motor trunks are paralyzed; but the fact of the matter is, that it is merely evidence that some *part* of the peripheral motor apparatus is paralyzed and does not in any way specially indicate the motor trunks any more than it does the terminal filaments or the muscle. Moreover, he attributes the depression of the motor nerves to a "paralyzing impulse from the cord." Just what the meaning of a "paralyzing impulse from the cord" is, I have no conception whatever. Who ever heard of paralyzing impulse from the cord destroying the electro-irritability of the motor nerves. Such phenomena as paralysis of the motor nerves from excessive use, such as probably occurs at times in strychnia poisoning, has been observed, yet this can scarcely be what is meant, for the actions of the two drugs physiologically are very dissimilar.

In considering the fifth of the series, we find it stated that "the fallacy here is the assumption that when the entire blood-vessels, lymphatics, and sensory nerves are compressed by a ligature, so as to arrest the circulation, the processes of absorption [etc.], go on above the ligature just as in the limb left to its normal conditions," for, as he thinks, the difference is very material, and that the right nerve has not been supplied as freely with the blood (consequently the poison) as the left. But this statement is vastly overdrawn, as will be apparent after an examination of experiments with drugs which directly depress the motor-nerve trunks, and is, consequently, worthless. Still, while it will be admitted that the ligature must more or less affect the circulation immediately above it, yet it certainly does not materially affect the circulation near the spinal cord, and although when stimulus is applied to the nerve-trunk at this position, the impulse is transmitted to the muscle.

In the latter part of the paragraph (8d line, 1st column, p. 598) appears a misquotation, in which it is stated "Dr. Foster concludes that the nerve-trunk of the left sciatic was *unpoisoned*," which should read *poisoned*. His argument immediately following this, and which is based upon it, is consequently worthless. In the succeeding paragraph he asserts that the fact of the muscle contracting shows that the terminal nerves were intact, and, further, that the contraction would not have followed in the muscle by stimulating a nerve-trunk if the terminal nerves were paralyzed. Certainly not; there is no other conclusion.

In the following paragraph he admits that there is good reason for believing that curare does paralyze the terminal nerve-fibres, because in rapid and fatal poisoning the muscles sometimes pass into tonic or clonic spasms, and in explanation of this phenomena, says that it is "to be presumed that the intra-muscular nerve-endings *are* paralyzed, and the muscle promptly set free," meaning by this that the "property of contractility of the muscle" is set free; and hence the occurrence of spasm. Of all "quasi-scientific" conclusions, this beats them all. Every physiologist knows that muscle does not possess the power of automatic action, and just why it is that a muscle on being "set free" by curare will enter into such a marvellous performance is certainly, in the light of physiological knowledge, inexplicable. Did the writer ever try the effect of curare when locally applied to the muscle? In the very many times we have used it, we cannot recall a single instance of spasm being produced by a local application to the excised muscle. To assume that the convulsions are due to this cause, is *reductio ad absurdum*. Now, he says, "in death, during the convulsions of curare-poisoning, could so profound a paralyzer, by any possibility, assume the *rôle* of a stimulant to a nerve-function? Surely not." Let us admit the answer, yet may we ask if the writer knows of such a thing as convulsions being due to *depression?* We believe that such is the case, as was pointed out in a previous paper.

Considering the last proposition, in which the experiments go to prove that the motor-nerve endings were alone paralyzed, exception is taken in the first place, because a current was not directly applied to the muscle to see if it would contract; and, in the second place, because mutilation of the muscle and shock, and the shortening of the muscle after separations from its bony attachments, would serve to invalidate the result. Regarding the first instance, we know that if a muscle is severed from all vascular connection, it will retain its power of contractility for a considerable length of time, and a muscle poisoned with curare will still reply to stimuli, so that it was in this case wholly unnecessary, and entirely uncalled for, to test the muscle, which undoubtedly retained its irritability. In the second instance, it seems obvious that the effects of mutilation, shock, etc., would impair the amount of response in the muscle, if anything, and furnish the

opposite result from what it did, and the very fact of the muscle responding so admirably under such circumstances is strong proof in Dr. Foster's favor. Dr. Poole's hypothesis, that the shock prevents the absorption of the poison, is overdrawn, and it is not taken into consideration that absorption goes on without the intervention of the nervous system.

Finally, he states that "wherever the nervous appendages and nerves are really found paralyzed, the contraction of the muscle will be found present as a contemporaneous fact," yet on the previous page he states that "proof that the terminal nerves were not poisoned . . . . is that the muscle contracted to the direct application of electricity." This is directly contradictory.

Considering all things, it is evident that the "quasi-scientific" conclusions rest with him, and not with Dr. Foster and his fellow-believers.

EDWARD T. REICHERT, M.D.

106 HALSEY STREET, NEWARK, N. J.

## ARMY NEWS.

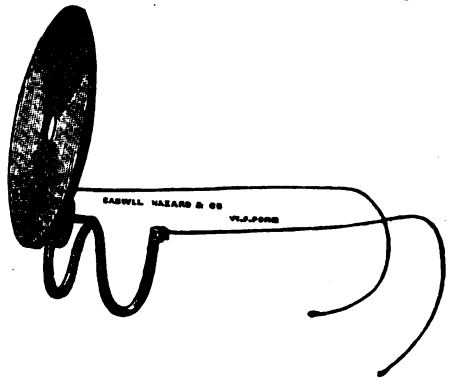
*Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from June 26, 1881, to July 2, 1881.*

KOERPER, E. A., Capt. and Asst. Surgeon. Granted leave of absence for two months and fifteen days. S. O. 143, A. G. O., June 24, 1881.

## New Instruments.

### AN AURAL AND LARYNGEAL HEAD MIRROR.

THIS is a convenient and portable instrument that may be safely carried in the pocket in a case, or introduced into the aural and laryngeal pocket-case. The mirror is attached to a spectacle frame, which increases its weight but little, and when worn upon



the head it is certainly much cooler than any arrangement with an elastic band. It has another advantage, it does not disarrange the hair of the head. This device has been perfected by Mr. Ford, of Messrs. Caswell, Hazard & Co.

EXAMINATIONS IN SANITARY SCIENCE will be held by the Michigan Board of Health on July 12th. Certificates are given to those passing the examinations satisfactorily.

## Medical Items and News.

CONTAGIOUS DISEASES — WEEKLY STATEMENT. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending July 2, 1881.

| Week Ending | Typhus Fever. | Typhoid Fever. | Scarlet Fever. | Cerebro spinal Meningitis. | Measles. | Diphtheria. | Small-pox. | Yellow Fever. |
|---|---|---|---|---|---|---|---|---|
| June 25, 1881. | 16 | 5 | 121 | 9 | 85 | 117 | 38 | 0 |
| July 2, 1881. | 11 | 6 | 136 | 8 | 75 | 114 | 17 | 0 |

INTERNATIONAL MEDICAL CONGRESS.—Delegates for the International Medical Congress are requested by the Hon. Secretary General, Dr. MacCormac, 13 Harley street, W., London, Eng., to inform him of the fact without delay, in order that suitable provisions may be made for hotel and lodging accommodations. Addresses of delegates may also be sent to Dr. Bulkley, 1 East 33d street, New York.

IODOFORM IN UTERINE AND CATARRHAL DISEASES.—Dr. Fowler, of Youngstown, O., makes a pliable mass for iodoform by mixing it with isinglass and glycerine. The isinglass is reduced to a jelly by steam, and enough glycerine is added to give it consistency and pliability. The proportions are as follows: Iodoform, ʒ j.; isinglass, ʒ viij.; glycerine, ʒ iv.

CONCERNING STRONG INJECTIONS IN GONORRHŒA.—Dr. John Ashhurst, of Philadelphia, in referring to some typographical errors in a recent report of his clinical lecture, writes: "I wish to protest that I do *not* use, in gonorrhœa, injections of SIX OUNCES of acetate of lead to TWO OUNCES of water, nor do I attempt to cure CHANCRE with camphor and opium suppositories; I think *two scruples* to *six fluid-ounces* quite strong enough for the injection, and it is *chordee*, not chancre, the pains of which I attempt to relieve by the rectal administration of anodynes."

INDIANA STATE MEDICAL SOCIETY.—Dr. William Commons, of Union City, Ind., writes: "In noticing the late meeting of Indiana State Medical Society, in RECORD of June 25th, you say, 'Resolutions were adopted to the effect that it is not the sense of this society that we have observed deleterious effects to the public health from the use of cooked pork; the disease called hog-cholera, and the disease called trichinæ is seldom met with in this country.'

"The statement is an error, which please allow me to correct. Such a resolution was introduced, but its declaration and import were so in opposition to observed facts, and so inimical to public health, that the society did not even give it the recognition of a vote, much less adopt it. The question of relation between hog-cholera and trichinosis was referred to a committee of five, who are to make observations and report next year."

THE ADIRONDACKS AS A HEALTH RESORT FOR CONSUMPTIVES.—As we predicted, the somewhat highly-colored article on the Adirondacks as a health resort, published in *Harper's Monthly* some months ago, has sent a crowd of consumptives to the St. Regis region.

It is said that already fourteen persons have died in the mountains, or on their way there, in the month of June.

So far as we can learn, the accommodations and food to be found ordinarily, are not very good.

At any rate, it behoves the profession to be very careful in recommending the resort.

THE UNIVERSITY OF VERMONT conferred, on the 29th of June, the degree of LL.D. on Dr. D. B. St. John Roosa, of this city. A well deserved honor.

CANADA.—The Ontario Medical Association held its annual meeting at Toronto, June 1st and 2d. Quite a large number of papers were read, and the meeting was considered a successful one.

The Canada Medical Association will meet at Halifax, N. S., on August 3d.

Dr. J. Fulton, the accomplished editor of the *Canada Lancet*, has been appointed Professor of Surgery in the Trinity Medical College, at Toronto.

THE ORDER OF THE KNIGHTS OF THE GOITRE are principally found in Switzerland. Its members are all swells.—*Puck.*

THE STATE BOARD OF HEALTH OF WEST VIRGINIA has been organized, with the appointment of Dr. J. E. Reeves as president.

THE ANNUAL MEETING OF THE ASSOCIATION OF MEDICAL SUPERINTENDENTS OF ASYLUMS in United States and Canada, was held at Toronto, June 14th.

JEFFERSON MEDICAL COLLEGE has lengthened its term one month. The term will hereafter begin the first week in September and end the last week in March. So says the college organ. According to the annual announcement, however, the term begins October 3d, it being preceded by a preliminary term of three weeks, as is usual in many colleges, and the lectures cease in the third week of March.

ASSISTANT SANITARY INSPECTORS.—The regular corps of fifty assistant sanitary inspectors for the summer, has been appointed by the City Board of Health. They will begin work some time in this month.

DR. KIDD AND THE LATE LORD BEACONSFIELD.—Dr. Kidd, who has been very unjustly sneered at by the *Lancet* and a few other patriarchal journals, writes a second letter in defence of himself. Much comment was made upon Dr. Kidd's having "one set of convictions" while Sir William Jenner and Gull had another. Dr. Kidd states that for several months before he was first called in to attend on Lord Beaconsfield, Jenner and Gull had been in attendance. They failed to secure any relief for the patient. Dr. Kidd was then called in. By the application of his "set of convictions," which he distinctly states are not homœopathic, he gave relief to his patient, and was retained as his medical adviser for the subsequent three and a half years of his patient's life. In this case the "one set of convictions" appeared to be simply a wider experience or better knowledge of the trouble from which his lordship suffered.

With reference to the assertion of the *Lancet* that Dr. Kidd's name was still in the homœopathic directories, he states that before the *Lancet's* article appeared he had written asking his name to be withdrawn.

We are not specially desirous of championing Dr. Kidd, but there has been a display of stupid conservatism and injustice toward him in some quarters which we are sure does not at all represent the feeling of the medical profession in general. Dr. Kidd, in profession and practice, stands now, so far as we can learn, on the same plane with other reputable practitioners. The zeal and self-denial of Sir William Jenner for the honor of the profession were well-intended, but utterly mistaken. His action and the controversy it aroused have tended to belittle the profession in the estimation of many.

WHAT VACCINE VIRUS ARE WE USING NOW?—The fact that small-pox is still as prevalent as ever in this city makes the above inquiry a very pertinent one. In a discussion on the subject of vaccination before the Medical Society of Kings County, Dr. J. H. H. Burge asserted that there are now in use six or seven kinds of vaccine virus. These he enumerates as follows: 1, we have, perhaps, virus direct from the natural vaccinia; 2, we have humanized virus, originally from the natural bovine vesicle; 3, a virus resulting from humanized virus introduced again to the system of the cow and brought back to man; 4, probably a virus resulting from inoculation of the cow with small-pox matter; 5, it is not impossible that we have a virus from other vesicular diseases in the cow resembling vaccinia; 6, we have the calf-to-calf virus, originally from the true natural kine-pox, and descending through a long line of induced cases of vaccinia.

Dr. Oscar C. De Wolf, Chicago Health Commissioner, replies to this in a paper read before the Chicago Medical Society (*Chicago Medical Review*). He says that Dr. Burge's statement, if true, is a grave impeachment of vaccine cultivators in this country. Dr. De Wolf then reviews the evidence upon the subject, and concludes that the virus now in use is really from the following four sources: 1, the Beaugency stock, introduced by Dr. Martin; 2, the Belgian stock, also introduced by Dr. Martin and by Dr. Griffin; 3, the culture of Dr. Griffiths, of Brooklyn, from a case of spontaneously appearing disease observed by him in the State of New York; 4, humanized virus from all the above stocks.

THE INTRAVENOUS INJECTION OF AMMONIA, in surgical collapse, has recently been tried by Mr. Thomas E. Clark, of Bristol, England, and with gratifying results. He urges a more extended use of the method in conditions of collapse.

MASSACHUSETTS COLOR-BLIND LAW.—Through the energetic efforts of Dr. B. Joy Jeffries, of Boston, and a few others, the Legislature of Massachusetts has been persuaded to pass an "Act Relative to the Employment by Railroad Companies of Persons Affected with Defective Sight or Color-Blindness." The first part reads as follows:

"SEC. 1. No railroad company shall employ or keep in its employment any person in a position which requires him to distinguish form or color signals, unless such person within two years next preceding has been examined for color-blindness or other defective sight, by some competent person employed and paid by the railroad company, and has received a certificate that he is not disqualified for such position by color-blindness or other defective sight."

The law is an excellent one, in that it calls for an examination for color-blindness. There is an unnecessary stringency, however, in its requiring a new examination every two years, and this may defeat its object. Furthermore, there is often an absurdity in passing men as having good vision because they are not color-blind. It certainly seems as

though the existence or non-existence of normal visual acuity ought also to be recognized. Under the above color-blind law, a myope or half-blind person could act, while a man with perfect vision, except for a little achromatopsia, would be rejected.

COMPULSORY CLINICAL ATTENDANCE.—In reference to the above subject, which is now being agitated, we are informed by Dr. M. W. Baker, Dean of the Woman's Medical College, that compulsory medical attendance has existed in that institution for many years. It is one of the few colleges in this country where a person "cannot graduate without seeing a case."

FIRST BIENNIAL REPORT OF THE NORTH CAROLINA BOARD OF HEALTH, 1879–80.—The first report of the North Carolina Health Board is most creditable to the energy and intelligence of its officers. The difficulties in the way of making the board a useful organization have been great. But little money was given it, and its efforts to collect vital statistics were met with great indifference by local authorities and medical men. Still much has been accomplished, especially in the way of supplying the people with sanitary knowledge by means of circulars, etc.

The present volume contains some articles of more than usual value. Among these are "Reports on Drinking-Water;" "Methods for Performing Post-mortem Examinations," adapted from the German regulations by the secretary, Dr. Wood; a circular on "Ventilation, Drainage, Drinking-Water, and Disinfectants," and an article on "Sanitary Engineering," by William Cain, C. E.

THE TENTH ANNUAL MEETING OF THE FRENCH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE was held on April 14th, at Algiers. M. Rochard presided over the section of medical sciences. There seems to have been very little of interest done. M. Verneuil made a communication on "The Relations of Malarial Poisoning to Surgery." The subjects of "The Treatment of Hæmorrhoids by Cold Water," of "Goitre," and "Vesico-vaginal Fistula," occupied the first day. The association was opened with a long discourse by Chaveau on "Ferments and Virus;" "Physiological Researches on the Action of Hellebore," "Treatment of Goitre by Capillary Electrolysis," "Amputation of the Cervix Uteri," "Pulsating Tumors of the Orbit," "Local Treatment of Diphtheria by Constant Application of Papaïne," "Physical Education of Infants," were among the subjects discussed on the second and third days.

M. Herard made a communication, in which he showed that hydropneumothorax sometimes had a favorable influence on the progress of phthisis. M. Caussidon advocated the treatment of typhoid fever with salicylate of soda. M. J. Boeckel related two cases of intestinal occlusion saved by laparotomy. M. Poncet made a communication on the subject of intraperitoneal cancers. Dr. Berthirand read a paper on "Sea Baths in the Treatment of Eye Troubles." M. Cornil described micrococci and bacilli found in diphtheria. M. Gillet de Grandmont showed some instruments for measuring the acuity of color-vision in the central and periphirec fields.

The meeting lasted four days. A good many physicians from France attended, but not enough to make the medical section amount to much.

LEPROSY IN LOUISIANA.—In connection with the effort initiated by the New York Academy of Medicine, to investigate the subject of leprosy in the United States, the report of the Louisiana Board of Health for 1880 contains some interesting statements. It gives a history of the progress of leprosy in that State during the last and present centuries. The disease was brought in 1680 to the West Indies by the negro slaves, and thence to Louisiana. In 1778 this disease was so prevalent among the blacks, together with the African elephantiasis, and another equally horrible, named yaws, peculiar to Guinea negroes, that a hospital for lepers was established in New Orleans. At the present time the majority of lepers in that city are found to be whites, of French, German, and Russian extraction. It has shown itself to be hereditary, and probably contagious.

An Italian Catholic priest, who attended cases of leprosy in the Charity Hospital, is now dying of it in the same house. Yet New Orleans, it appears, has no separate asylum for these incurable patients, and they are received into the Charity Hospital and placed in the crowded wards to scatter death.

The president of the Board of Health has made a personal investigation into the extent of this disease, even venturing into the swamps of the lower Bayou Lafourche. This whole district, he states, is several feet lower than the turbid bayou, sloping back into cypress swamps liable to constant overflow from crevasses. The poor Creole inhabitants live in low huts surrounded by wet rice-fields, living upon fish and fish-eating birds. They are separated from the rest of the world and have intermarried for generations. So impregnated with disease is this remote region that some of the exploring party were struck down on reaching it with violent hemorrhages and fever. Of all foul corners of the world it is the fittest for the disease most dreaded by man since the beginning of the world to hide with its prey. Below Harang's Canal, President Jones found Asiatic leprosy existing in different generations of six families. Some of these wretched creatures have been driven out from human habitation, and are living apart in the swamps, dying of decay. It was impossible to make a correct estimate of the cases, as a rumor spread among them that the searching party had come to carry them off to an uninhabited island of the sea, and they hid themselves, their friends, too, refusing to tell their names or number.

ALLOCHEIRA is the name applied by Professor Obermeister for the subjective error of locating an impression on the opposite side of the body to that where it is applied. Several cases are related of this curious affection. In one the man had syphilis, in another he had received an injury of the spine. In all cases the sensibility, as tested by the æsthesiometer, was normal.

PECULIARITIES OF TYPHOID FEVER AS IT OCCURS IN CHILDREN.—Dr. Henry Ashby, in *The Practitioner*, makes some notes upon typhoid in children. These may be summed up as follows:

*First.*—The disease is milder in children than in adults. The per cent. of mortality averaged, in two hundred and sixty-five cases, eight.

*Second.*—The susceptibility to the disease is greater in children.

*Third.*—The typhoid of children more often aborts—*i. e.*, runs a course of two weeks, instead of three or four—than the typhoid of adults. As a rule, such cases are not accompanied by much diarrhœa, and do not relapse.

*Fourth.*—The onset, in the majority of fifty cases analyzed, was gradual. In the minority of cases there was a slight shivering.

*Fifth.*—The morning remissions of fever are

greater than in adults. The highest temperature is reached between four and eight P.M.

*Sixth.*—Rose-spots appeared in seventy-eight per cent. of the cases, which is smaller than the per cent. usually given for adults.

*Seventh.*—Hemorrhage from the bowels and perforation are rare.

*Eighth.*—Relapses are not uncommon.

*Treatment.*—Not much medicine is advised. The pyrexia being combated chiefly by cool sponging and baths, or, occasionally, by quinine. As regards diet, the invariable rule has been to give milk only. The mixing raw egg with it is not believed to be an improvement. The peptonized milk, or milk gruel, as recommended by Dr. Roberts, was found very valuable.

For Orthopnœa, due to defective heart action, free purgation, with the hourly administration of digitalis and nux vomica, are recommended by Dr. H. Cook.—*Practitioner.*

An Interesting Illustration of the valuelessness of some of the conclusions of foreign experimentalists is shown in a recent elaborate paper by Afanasieff. He treated *seven* cases of typhoid fever with the lukewarm bath, according to a new method, and deduced three conclusions therefrom. The baths were a modified form of the Riess method. The patients were kept in water at a temperature of 88° F. for three hours at a time. We are confronted with the surprising deduction that such baths reduce the temperature. The per cent. of mortality is not given.

Cupric Test Pellets.—Dr. H. G. Piffard writes to the *Medical and Surgical Reporter*, asserting his claim to the invention of cupric test pellets, which honor some are disposed to confer on Dr. Pavy, of London. Dr. Piffard's formula is as follows:

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|---|---|---|
| ℞. | Cupri sulph. (pure)..... | 1 part. |
| | Sodæ et potas. tart. (cryst.).. | 5 parts. |
| | Sodic hydrate (pure)..... | 2 parts. |

Mix thoroughly in a mortar; the more labor spent in this the better the product. Put a piece of the pasty mass thus made, about the size of a C. C. pill, into a test-tube. Add two drachms of water, and boil till the mass is dissolved. The solution has a uniform pale and rather dirty blue color. Add two or three drops of the suspected urine and boil again for a moment. If sugar be present the usual reaction will be manifest.

Periods of Incubation of the Communicable Diseases.—Dr. B. W. Richardson gives a list of twenty-five communicable diseases which have a period of incubation. He adds a list of eleven diseases concerning which it cannot be said certainly that they have a period of incubation. These latter are; Catarrh, puerperal fever, pyæmia, hospital gangrene, sloughing phagedæna, phagedæna, remittent fever, intermittent fever, choleraic diarrhœa, cerebro-spinal fever, carbuncle.

The diseases attended with stages of incubation are conveniently divided into five groups:

*Shortest*—Incubation one to four days: Malignant cholera, malignant pustule, plague, catarrh, dissection wound diseases.

*Short*—Incubation two to six days: Scarlet fever, rosalia idiopathica, diphtheria, dengue, erysipelas, yellow fever, pyæmia, influenza, pertussis, glanders, farcy, grease, croup, puerperal fever.

*Medium*—Incubation five to eight days: Relapsing fever, gonorrhœa, vaccinia, inoculated variola.

*Long*—Incubation ten to fifteen days: Small-pox, varicella, measles, rötheln, typhus, typhoid, mumps, malarial fever.

*Longest*—Incubation forty days or more: Syphilis, hydrophobia.

Phthisis without Cough.—In a recent clinical lecture (*Maryland Medical Journal*) Dr. William H. Thomson called attention to certain cases in which the cough of phthisis is entirely suspended. Such an event may occur when there is a drain upon the system in some other direction, as when diarrhœa, or chronic suppuration, or large excretion of urine sets in. One patient, whose history was given, had a phthisical cough and a very large cavity in the right lung. A psoas abscess appeared and the cough stopped entirely during the two years in which the suppuration continued, but it began again when the abscess healed up, and the patient soon after died. In another case, a woman was being treated for abscess about the ileo-cæcal valve, from which pus was constantly discharging, sometimes externally, sometimes internally. The patient had no cough, and no phthisis was suspected; but one day the lungs were examined and a large cavity found.

Another case of similar character was that of a patient in Roosevelt Hospital, who was being treated for diabetes insipidus. He was passing from seventy-seven to one hundred ounces of water daily. He had no cough. He was finally put upon opium and valerian. His urine lessened in quantity, even to forty-seven ounces a day. But a cough set in; his lungs were discovered to have a large cavity. The former treatment was stopped, but the cough continued, and the patient died of phthisis in a few weeks.

Religion as a Therapeutic Help.—It is not often that scientific men enroll religion among therapeutic agencies. Dr. Stephen S. Alford, however, in an article on the "Practical Treatment of Dipsomania," does this. After recommending total removal, of alcohol from the patient in acute attacks, with substitution of bromides, capsicum, Russian baths, acidulated drinks, diluent foods, etc., he advises tonics and a gradual education of the moral strength. He says: "Religious influence is important in the second and subsequent stages of treatment, and to sustain the abstinence that must be religiously observed under all circumstances throughout life. This conquest of self, and keeping the morbid craving in subjection, few men can accomplish. At times, even after years of abstinence, the desire will be most distressing and overpowering. It is refreshing, under such circumstances, to recognize and experience the existence of a higher power, who will give the necessary help to all who really believe and ask for it."

The author thinks that the percentages of recoveries from inebriety in England is about what it is estimated to be in America, *i.e.*, about one third recover, one-third improve and relapse, one third are not benefited.

Oliver Wendell Holmes on Pathological Anatomy.—At the recent presentation of a portrait of Dr. J. B. S. Jackson to the Boston Medical Library Association, Dr. Holmes made some very happy remarks regarding Dr. Jackson and his favorite study, pathological anatomy. Referring to Dr. Jackson's

activity as a member of the Boston Society for Medical Improvement, he said, "I recollect the days in which, with at least as much truth as there was in Louis XIVth's saying he was the throne, it might have been said that Dr. Jackson was the society. He was its support, its main pillar, untiring and untirable as a marble caryatid—say, rather its vertebral centre, around which all its limbs and organs were disposed. Did others fail to appear, he was always present; were others silent from lack of material for discourse, he was always ready with the story of some new and interesting case; had others brought no specimen, he was always sure to unwrap some embryonic *jeu d'esprit* of nature, or some fragment of unenviable personal property not mentioned in the late owner's will or codicil. He has left the memory of all this in the two imperishable fluids—ink and alcohol; in his minute and trustworthy records, and in the jars where the liquid that destroys the organs of the living, confers a kind of immortality upon the viscera of the dead. . . Dr. Jackson would never meddle with the microscope; he was always contented with his natural lenses of ten inches of focal distance. And thus, whatever he lost, he escaped one of the not infrequent effects of over-reliance upon the instrument to which we are under infinite obligations, but which is breeding a generation of intellectual myopes as one of its results."

Cremation in Denmark.—A new impulse to cremation has recently been given by the organization and work of the society in Denmark. At a meeting held in Copenhagen, May 31, it was shown that the society counted fourteen hundred and nine members, among whom were eighty-three physicians and some prominent clergymen. Opposition and prejudice have to a large extent died away, even among clergymen.

In the furnace projected by the Danish society corpses are to be reduced to ashes in a little over one hour, and it is calculated that the cost of incineration will be reduced to the insignificant sum of from three to five crowns—between one and two dollars. This economical feature of the project has met with great favor among the poorer classes, who complain that it is expensive to live, but much more expensive to die in the Danish capital.

Leprosy in Key West, Fla.—A correspondent of the *Tribune* recently sent what appears to be a somewhat sensational account of leprosy at Key West, Fla. He says: Some three years ago, while on the island of Key West, Fla., I was surprised to find leprosy there in all its horror, and making bold to speak of the matter, I was immediately condemned for attempting to injure the commercial prosperity of the place, and particularly in destroying its reputation as a resort of Northern invalids. The reputation seemed to dwell only in the minds of the sanguine, for but few invalids would risk their lives in a place like Key West, notorious for its yellow fever. However, I was stationed at Key West for six or seven years, and can confidently state that there are many cases of leprosy on that island, whole families being afflicted with it, and in several instances it was found in its worst form. No provision is made for the unfortunates; they dwell surrounded by the masses, intermarrying, and die. To strangers who happen to discover the truth, it is a source of continual anxiety, for one does not know when wash-clothes may be returned impregnated with the poison. This disease has been thoroughly and undeniably traced to the English possessions in the adjacent islands. I can assure you if a cautious and honest investigation is made in that locality the result would astonish the people of this country. A selfish spirit prompts the leading people of that beautiful but poisonous island to disguise the real state of affairs existing there, and I would take but little comfort in smoking a genuine Key West cigar, knowing of the existence of these horrible facts. The summer of 1880 in this island is locally notorious for its yellow fever horrors: still the press of the country would lead one to suppose there existed there but a few passing cases. Only Government officials, like myself, know of these horrors, and strangers have been repeatedly lured there only to find a grave. I have no personal interest in condemning Key West, but am only possessed of a desire to warn the ignorant and confiding, and condemn the wicked and selfish, who, being saturated with the poison themselves, are reckless for gain and indifferent of results.

The British Encyclopædia and Homœopathy.—The homœopaths have long been unsatisfied with the tone of the article on "Homœopathy" in the "Encyclopædia Britannica." This same protest was made many years ago when the first editions came out, and some promises of change were made by the American publishers. Nothing was done, however, and in the present edition the article is as offensive as ever. It is now said that a Dr. Cooper is to be sent over to London this summer by the homœopaths to protest officially against the article and insist upon its change.

The Sleeping Hungarian, whose case was reported in the Record as one of trance-coma, has begun to show some signs of returning consciousness. He has spoken several times. He said he belonged to the Slavonic race and could speak Hungarian. His mind wanders a little, but his condition improves. He had been asleep for one hundred and thirty-five days.

Artificial Impregnation.—In a recent communication to the Société de Biologie, Dr. De Sinéty discussed the subject of sterility in the male. He was inclined to think that in families without children the cause was oftener in the male than had generally been supposed. The usual test of procreative power on the part of the male is an examination of the spermatic fluid. If spermatozoa are found, it is considered evidence that the man is potent. In three instances described by Dr. Sinéty, however, this conclusion seems to be made doubtful. In these cases there seemed to be nothing in the condition of the wives to explain their sterility. Spermatozoa were found in the spermatic fluid of the husbands. In order to be sure that the spermatic fluid reached the interior of the uterus, artificial impregnation was resorted to. Shortly after the menstrual flow this was repeated, at intervals, six times, but without avail. The fresh spermatic fluid had been examined and found to contain many spermatozoa. But it was at last noticed that these spermatozoa, though very numerous, were for the most part immobile, and that movements soon ceased even in the few where they were first noticed. The observer's attention was awakened by this, and he examined the fluid in the two other cases with the result of finding the same condition. Two of the patients had tuberculosis, and the third was much debilitated.

## NOTES ON THE USE OF PEPSINE IN MEDICINE,

### WITH RECOMMENDATIONS REGARDING SACCHARATED AND PURE PEPSINE.

That many of the diseases from which mankind suffer during infant and adult life are caused by malnutrition, there can be no doubt; and the extent to which non-assimilation of the life-giving properties of food interferes with recovery from severe illness, baffling the best-directed efforts of the physician, points the necessity for an agent sufficiently potent to replace the deficient principle and aid nature in renewing the degenerated tissues.

Realizing this need, the science of chemistry produced pepsine; and even if medical literature were silent as to testimony of the results obtained, the large amount manufactured and consumed would amply attest its usefulness. But such is not the case, for, after long and careful investigation on the part of practical therapeutists, it is accepted as the remedy *par excellence* in all cases where the gastric juice fails to afford a sufficient amount of ferment for the reduction of aliment to a condition suitable for healthy assimilation.

As the undoubted value of pepsine as a remedial agent became evident, competition in its manufacture was stimulated; and as a natural result, the supply was varied both in purity and strength, and the medical profession, while anxious to avail themselves of its usefulness, were nearly as often misled into erroneous conclusions regarding its efficacy, as satisfied with its results—solely in consequence of their misfortune in not using such qualities as were likely to produce the much-lauded effects. Under these circumstances, a definite understanding regarding reliable preparations is desirable and of great importance. Pure pepsine, without acid, thoroughly triturated with finely powdered sugar of milk (saccharated pepsine*), will, without doubt, produce the perfect results in all cases where the remedy is exhibited.

Routh, in his "Infant Feeding," gives an account of a result obtained in the case of an infant. "Small, wrinkled, emaciated, four days old, yet presenting almost the appearance of decrepitude. The voice was weak, but distinct, and respiration not obstructed. The mother was an excellent nurse, but, although the infant took the breast readily, it constantly threw up every meal. What passed through the bowels was unchanged, although slightly tinged with bile. Diarrhœa was also present." The usual external remedies were applied, but without avail. "Emaciation was on the increase; the child was, in fact, dying." At this stage saccharated pepsine was administered, fifteen grains divided into ten powders, mixed with a little of the mother's milk, and after the second day the diarrhœa ceased and the child appeared much stronger. Twenty days of this treatment and the child was quite well. The eminent author adds: "This is a case which speaks strongly to the convictions. If, at so early a period of life, when vitality and digestion were so weak, the artificial pepsine effected a cure, *a fortiori* will it be likely to do so in the case of older children; and so I have found it in practice. The digestive powers are thus assisted, and the food, which before was useless, because undigested, readily becomes assimilated."

When administering pepsine, the slight acidity of the natural fluid should be produced as nearly as possible; and as the necessities differ with the circumstances, it is desirable that the preparation be quite free from acidulation, and the proper dose be given in combination with the requisite amount of dilute acid. Of Kidder & Laird's pure pepsine, five to ten grains, for an adult, can, if necessary, be taken in an ounce of water with five drops of muriatic acid.

For infants, however, the saccharated pepsine will be found to yield the most satisfactory results, and the acid should be dispensed with. Quantitively it represents one-tenth of the strength of pure pepsine; but it has been found to be but about one-fourth less in efficacy. The absence of acid, which would otherwise tend to produce harmful results, will be recognized when it is considered that even the slight acidity of most cow's milk, when used as food for infants, is sufficient to disagree with them.

With regard to the proper time for its administration, as before or after the taking of food, opinions vary, but reason would suggest that about half an hour before eating will afford the ferment a sufficient time to combine with the existing condition of the stomach, and produce the most natural effect upon the food when it has been acted upon by the salivary fluids in its passage to the stomach.

When once the formation of peptone has been established in the stomach, and as strength is acquired, the system will soon respond toward resuming the natural production of its normal fluids. Thus it is that many of the disorders of digestion which accompany severe attacks of fever, phthisis, etc., and also the exceedingly sensitive condition of the stomach, caused by vomiting in pregnancy and alcoholism, are controlled, and a natural condition resumed.

Having mentioned the necessity of great care in the selection of pepsine, with reference to its purity and strength, it is proper to say that, even with the superior article above recommended, negative results may be obtained, unless attention is given to the form of its administration. Combinations beyond those above mentioned are not advised, but rather discouraged, as many of the substances usually recommended as efficacious with it are incompatible and render the pepsine inert.

* Saccharated pepsine, free from acid, is prepared by Messrs. Kidder & Laird, No. 88 John street, New York, who generously furnish samples of both this and the pure pepsine, free of charge, upon application.

# For Consumption and Wasting Diseases.

# HYDROLEINE

*Has been proved of the highest value in CONSUMPTION and all WASTING DISEASES, invariably producing IMMEDIATE INCREASE in FLESH and WEIGHT.*

## FORMULA OF HYDROLEINE.

***Each dose of two teaspoonsful, equal to 120 drops, contains:***

| | | | |
|---|---|---|---|
| **Pure Oil** | **80 m. (drops.)** | **Soda** | **1-3 grains.** |
| **Distilled Water** | **35 "** | **Boric Acid** | **1-4 "** |
| **Soluble Pancreatin** | **5 grains.** | **Hyocholic Acid** | **1-20 "** |

**DOSE.—Two teaspoonsful alone, or mixed with twice the quantity of soft water, to be taken thrice daily with meals.**

*The principles upon which this discovery is based have been described in a Treatise on* "THE DIGESTION AND ASSIMILATION OF FATS IN THE HUMAN BODY," *by* H. C. BARTLETT, Ph.D., F.C.S., *and the experiments which were made, together with cases illustrating the effect of Hydrated Oil in practice, are concisely stated in a Treatise on* "CONSUMPTION AND WASTING DISEASES," *by* G. OVEREND DREWRY, M.D.

*In these Treatises the Chemistry and Physiology of the Digestion of the Fats and Oils is made clear, not only by the description of a large number of experiments scientifically conducted, but by cases in which the deductions are most fully borne out by the results.*

☞ ***Copies of these valuable works will be sent free on application to all who mention THE MEDICAL RECORD.***

## HYDRATED OIL

# HYDROLEINE

## WATER AND OIL.

*May be described as partially digested oil, which will nourish and produce increase in weight in those cases where oils or fats, not so treated, are difficult or impossible to digest. In* CONSUMPTION *and other* WASTING DISEASES, *the most prominent symptom is* EMACIATION, *of which the first is the starvation of the fatty tissues of the body, including the brain and nerves. This tendency to emaciation and loss of weight is arrested by the regular use of* HYDROLEINE, *which may be discontinued when the usual average weight has been permanentaly regained.*

*The ordinary so-called emulsions of Cod-Liver Oil and other fats,* WHETHER PANCREATIZED OR NOT, *merely remain in the form of a course mechanical mixture for a short time after agitation. The digestion of oil, having in no sense been artificially produced, still devolves upon those functional powers, the deficiency of which is the most prominent symptom in these cases.*

HYDROLEINE *is not a patent medicine or a secret preparation; the formula is on every bottle. Can be taken by the most delicate stomach; is immediately assimilated.*

*The permanence and perfection of the emulsion, and the extreme solubility of the* HYDRATED OIL, *solely prepared and sold by us under the name of* HYDROLEINE, *is shown by its retaining its cream-like condition as long as the purest Cod-Liver Oil will retain its sweetness. Unlike the preparations mentioned, or simple Cod-Liver Oil, it produces no unpleasant eructation or sense of nausea, and should be taken in such very much smaller doses, according to the directions, as will insure its complete assimilation; this, at the same time, renders its use economical in the highest degree.*

*To brain-workers of all classes, Hydrated Oil is invaluable, supplying as it does the true brain food.*

*Economical in use—certain in result. Tonic—Digestive and Highly Nutritive.*

# NEW PRINCIPLE FOR THE ASSIMILATION FAT

## WILLIAM F. KIDDER, Agent for the United States,

**Depot, 83 John Street, - - NEW YORK**

# HYDROLEINE OR HYDRATED OIL AS A THERAPEUTIC AGENT IN WASTING DISEASES.

By W. H. BENTLEY, M.D., L.L.D.,
VALLEY OAK, KY.

In October, 1880, I read an advertisement of Hydroleine in some medical journal. The formula being given, I was somewhat favorably impressed, and requested the two pamphlets that the advertiser, Mr. William F. Kidder, of 83 John street, New York, proposed to send: One on "The Digestion and Assimilation of Fats in the Human Body," and the other on "The Effects of Hydrated Oils in Consumption and Wasting Diseases." In due time I received the pamphlets. They are ably written, and afford an interesting study. Their doctrines are so reasonable, that I got up faith enough to have my druggist to order a sufficient supply to thoroughly test the merits of the preparation.

I was ready to catch at anything to take the place of cod-liver oil. In my hands it has proved an utter and an abominable failure in ninety-five per cent. of all my cases in which I have prescribed it since I have been engaged in country practice, and it never benefited more than forty per cent. of my city patients.

The inland people, who seldom eat fish, can rarely digest cod-liver oil. Almost every week I am consulted by some victim of the *cod oil mania* who has swallowed the contents of from one to twenty-five bottles, and who has been growing leaner, paler, and weaker all the while, until from a state of only slight indisposition, these patients have become mere "living skeletons." Nearly all complain of rancid eructations, and an unbearable fishy taste in their mouths from one dose to another. They not only fail to digest the cod oil, but this failure overloads the digestive organs to such an extent that digestion and assimilation of all food becomes an impossibility, the patient languishes and pines, and finally dies of *literal starvation*. In the comparatively small number with whom I have found cod-liver oil to agree, it has proved very gratifying results. In my practice, by far the largest number receiving benefit from it have been children. Those who have, previous to their illness, been accustomed, to some extent, to a "fish diet," will be more likely to digest the oil, and more notably so in cold climates. Still the innumerable efforts that have been made in the shape of "pure cod-liver oil," "palatable cod-liver oil," "cod-liver oil with pepsin," "cod-liver oil with pancreatin," "cod-liver oil emulsions," etc., and so on, *ad infinitim*, attest the fact that the great *desideratum* after all is to render cod-liver oil capable of retention by the stomach, and digestable when it is retained.

As hydroleine is partially digested oil, and this partial digestion was brought about by a combination of factors suggested by actual physological experiments, these facts commend it to my confidence, and a trial of the preparation in seven typical cases convinces me that it possesses a high degree of merit, and I feel like it is a duty incumbent upon me to call the attention of my medical brethren to the subject.

The first case in which I prescribed it was that of a married lady 28 years of age, a blonde, and the mother of four children, the eldest 9, and the youngest 1 year old. From the birth of this she dated her illness, for she made a tardy convalescence, remaining unable to walk for a month. Soon after she began to grow weaker, and soon resumed her bed, which she had not left to any extent ever since, not at any time being able to sit up longer than fifteen or twenty minutes. During all the while she was under charge of a skillful physician. He had tried many remedies to check the rapid emaciation; among these were several different brands of malt extract, cod-liver oil, and various mixtures of the oil. None of the oils and their mixtures agreed with her. In March, I was called and prescribed hydroleine, a bottle of which I delivered at the time, directing her to commence with teaspoonful doses, to be gradually increased to twice the amount. It agreed with her finely, and by the time the first bottle was used she was very greatly improved. She procured and used two additional bottles, and, at this writing, June 15th, is considerably well.

The above case was one of general and persisting emaciation, unaccompanied by any cough or perceptable thoracic trouble. The ensuing case was one of diagnosed.

TUBERCULAR PHTHISIS.

The patient, a married lady, æt. 32, had been married about 14 years, and was the mother of six children, the youngest two years of age. Several of her sisters had died of the disease. Her medical adviser prescribed cod-liver oil, and she had taken a full dozen bottles with plenty of whiskey. The oil had not been digested, although it had been retained by the stomach. Her cough had grown constantly worse, and she grew rapidly weaker, week by week. I prescribed hydroleine for her, and she commenced to take it in April, about the 15th. It agreed with her finely. She rapidly gained weight and strength; her cough improved and has now nearly ceased. She has used nearly four bottles, and continues to use it, though apparently well.

I have prescribed it in three other cases, in two of which the results have been equally gratifying, but in the other case it produced nausea and greasy eructations.

From these trials I am led to think quite favorably of the hydrated oil, and am led to believe that, although it may not agree with all, it will be found of great and permanent benefit to a very large per cent. of consumption and other "wasting" diseases, and that it is destined, at no distant day, to very largely supplant the undigested oils.

# HORLICK'S FOOD

—FOR— —AND—

## INFANTS INVALIDS

*Not Farinaceous.* *Entirely Soluble.*

After a trial of **six** years, this unrivalled preparation has fully proved itself to be the best article of diet for Infants and Invalids.

**IT IS THE BEST SUBSTITUTE FOR MOTHERS' MILK,**

And has received the endorsement of the leading Physicians of this country and Europe, amongst whom we refer, by permission, to the following eminent medical men who have used it extensively in their practice:

**Prof. J. LEWIS SMITH, Prof. WM. H. BYFORD, Prof. J. P. OLIVER, Prof. H. O. MARCY,**
**" DE LASKIE MILLER, " J. ADAMS ALLEN, " A. J. GAWNE, &c., &c., &c.**

**Price, 18-ounce bottle, 75c.; 8-ounce bottle, 40c.**

## DRY EXTRACT OF MALT.

Warranted free from any adulteration whatever. Made with the utmost care from selected Canada barley malt, possessing many advantages over the liquid extracts. It will not ferment or undergo any changes. It is entirely soluble.
**Price, 18-ounce bottle, $1.00; 8-ounce bottle, 50 cents.**

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**J. & W. HORLICK & CO., Racine, Wis.**

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SOLD BY DRUGGISTS EVERYWHERE.

**A Sample Bottle of the above Preparations sent FREE to Physicians on application.**

☞ **Please mention MEDICAL RECORD.**

REED & CARNRICK, 196 Fulton Street, New York, will forward to any physician in the U.S., who will pay express charges, *a one-pound bottle of Maltine, or any of its combinations*, provided they mention THE MEDICAL RECORD. See page 4.

☞ **See advertisement of W. H. Schieffelin & Co., page 3.**

## SCOTT'S EMULSION PURE COD LIVER OIL,

With Hypophosphites of Lime and Soda. Perfect, Permanent, Palatable.

The well-known virtues of this preparation, that has now been before the profession for a number of years, hardly requires comment from us. But we desire, for the information of those whose attention may not have been directed to it, to present the following facts:

FIRST:—We use in the manufacture of our Emulsion, Cod Liver Oil that is prepared expressly for us, and is strictly pure, which is the most important consideration to the Physician.

SECOND:—By our process of Emulsifying, we so thoroughly incorporate the Oil with the Hypophosphite Salts, that the mixture is perfectly homogeneous, and remains in that condition without the slightest separation or change for years, unless exposed to the air or intense heat.

THIRD:—It is so palatable and easy of digestion, that it can be administered to children and persons with most sensitive stomachs without the slightest repugnance, and we are confident, from the results that have been obtained in the use of this preparation, and the flattering testimonials we have received from prominent physicians, that the proper manner of administering Cod-Liver Oil, even to patients that can tolerate the crude oil, is in the form of a palatable and easily digested Emulsion. There are some in the profession that adhere to the use of the plain oil; but, with all due deference, if they will make a trial of our Emulsion, we believe their prejudices will be removed, and they will find it much more beneficial to their patients.

With all the numerous Foods, Cereals, and so-called Constructive Agents of uncertain value that are being introduced, the physician must sometimes be at a loss to know what to prescribe. But we are assured that the profession will bear us out in the statement that in all Pulmonary troubles, especially where the lung tissue is involved, in Scrofulous children, and in Anæmic women of consumptive tendencies, as well as in general nervous debility, our combination will produce results, if properly administered, unequaled by any other preparation, and most satisfactory to the physician and patient. We most respectfully ask those who have never prescribed or seen its results, to give it a trial, and if you desire to make a personal inspection of it, we will be pleased to send a sample by express, prepaid.

FORMULA;—50 per cent. of pure Cod Liver Oil, 6 grs. of the Hypophosphite of Lime, and 3 grs. of the Hypophosphite of Soda to a fluid ounce. Emulsified with mucilage and glycerine.

**SCOTT & BOWNE, Manufacturing Chemists, 108 & 110 Wooster Street, New York.**

# Original Communications.

## SURGICAL REFLECTIONS AND ANATOMICAL OBSERVATIONS

### Bearing upon a Possible Course of the Bullet that Wounded President Garfield.

By FANEUIL D. WEISSE, M.D.,

NEW YORK,

PROFESSOR OF PRACTICAL AND SURGICAL ANATOMY, MEDICAL DEPARTMENT OF UNIVERSITY OF THE CITY OF NEW YORK.

On July 2, 1881, at 9.20 A.M., President Garfield received a pistol-shot wound from a British bull-dog revolver, which carried a $\frac{44}{100}$ central-fire cartridge (powder twenty grains, weight of bullet two hundred graihs). He was fired upon at a distance of eight feet (?). The incidents of the shooting were given (see *New York Herald*, July 3d, page 8) by a reliable eye-witness (Mr. Simon Camacho, Minister from Venezuela), as follows:

"I heard the noise of quick steps. The report of a pistol followed immediately. I turned quickly, and saw a man firing a second shot, into the back of President Garfield—directly in his back."

"What happened when he was hit?"

"Well, he fell—that is, he dropped or sank as it might be, and fell forward near the wall. His knees seemed to bend, and he leaned a little toward the right as he fell face downward."

"Did he speak?"

"No; not a word."

"Nor utter a word?"

"I heard none."

The *New York World*, of July 3d, states that the President pressed his hand against his side when wounded there, that hemorrhage occurred from the wound, and that as he fell he vomited.

Doctor Townshend, Health Officer of the District, is reported to have said: "I found the President, when I arrived at the Baltimore and Potomac Depot, about five minutes after the shooting occurred, in a vomiting and fainting condition. From the pulse at the wrist, I thought he was dying. I had his head lowered, and administered aromatic spirits of ammonia and brandy to revive him. This had the desired effect, and the President, regaining consciousness, was asked where he felt the most pain. He replied 'In the right leg and foot.' I asked him the character of his pains, and he said that it was 'a prickling sensation.'

"He rallied considerably, and I proceeded to examine his wounds. I found that the last bullet had entered his back about two and a half inches to the right of the vertebræ. I introduced my finger into the bullet wound, some hemorrhage followed. After examination of the wound, the President looked up and asked me what I thought of it. I answered that I did not consider it serious. He continued, 'I thank you, doctor, but I am a dead man.'"

The official bulletins from this time are here given:

EXECUTIVE MANSION, July 2, 1881.

12 M.—The President is somewhat restless, but is suffering less pain. Pulse, 112. Some nausea and vomiting have recently occurred. Considerable hemorrhage has taken place from the wound.

D. W. BLISS.

12.35 P.M.—The reaction from the shock of the injury has been very gradual. He is suffering some pain, but it is thought best not to disturb him by making any exploration for the ball until after the consultation at 3 P.M.

D. W. BLISS.

4 P.M.—The President's condition is somewhat less favorable, evidences of internal hemorrhage being distinctly recognized. Pulse 132; temperature, 96.8. That is a little below the normal. He suffers rather more pain, but his mind is perfectly clear.

D. W. BLISS.

WASHINGTON, July 2—11 P.M.

The President is resting quietly, and was cheerful. Pulse, 124; temperature, 99; respiration, 20. All the symptoms are favorable.

D. W. BLISS.

EXECUTIVE MANSION, July 3—1 A.M.

The improvement in the President's condition, which began early in the evening, has steadily continued up to this hour. His temperature and respiration are now normal, and his pulse has fallen to 120. The attending physicians regard all his symptoms as favorable, and a more hopeful feeling prevails.

D. W. BLISS.

EXECUTIVE MANSION, July 3—10 A.M.

The President has rested quietly and awakened refreshed, and his improving condition gives additional hope of his gradual recovery. Pulse, 114; respiration, 18; and temperature about normal.

D. W. BLISS.

EXECUTIVE MANSION, July 3—11 A.M.

The President's condition is greatly improved. He secures sufficient refreshing sleep, and during his waking hours is cheerful and is inclined to discuss pleasant topics. Pulse, 106: with more full and soft expression; temperature and respiration normal.

D. W. BLISS.

EXECUTIVE MANSION, July 3—6 P.M.

There is no appreciable change since the last bulletin. The President sleeps well at intervals. Pulse, 108; temperature and respiration normal.

D. W. BLISS.
J. K. BARNES.
J. J. WOODWARD.

EXECUTIVE MANSION, July 3—10.30 P.M.

The condition of the President is less favorable. Pulse, 120; temperature, 100; respiration, 20. He is more restless, and again complains of the pain in his feet.

D. W. BLISS.
J. K. BARNES.
J. J. WOODWARD.
ROBERT REYBURN.

EXECUTIVE MANSION, July 4—12.30 A.M.

The President's condition has changed very little since the last bulletin. Pulse, 112; temperature, 99.8; respiration, 20. Some tympanites is recognized. Does not complain so much of pain in the feet.

D. W. BLISS.
J. K. BARNES.
J. J. WOODWARD.
ROBERT REYBURN.

EXECUTIVE MANSION, July 4—8.15 A.M.

The condition of the President is not materially different from that reported in the last bulletin (12.30 A.M.) He has dozed at intervals during the night, and at times has complained of the pain in his feet. The tympanites has not sensibly increased. Pulse, 108; temperature, 99.4-10; respiration, 19.

D. W. BLISS.
J. K. BARNES.
J. J. WOODWARD.
ROBERT REYBURN.
FRANK H. HAMILTON.
D. HAYES AGNEW.

EXECUTIVE MANSION, July 4—8.15 A.M.

We held a consultation with the physicians in charge of the President's case at seven A.M. to-day, and approve in every respect of the management and of the course of treatment which has been pursued.

FRANK H. HAMILTON, of New York.
D. HAYES AGNEW, of Philadelphia.

July 5th.

8.30 A.M.—The President has passed a comfortable night, and his condition this morning is decidedly more favorable. There has been no vomiting since last evening at 8 o'clock, and he has been able to retain the liquid nourishment administered. There is less tympanites, and no abdominal tenderness, except in the wounded region. Pulse, 114; temperature, 100.5; respiration, 24.

D. W. BLISS,
J. K. BARNES,
J. J. WOODWARD,
ROBERT REYBURN.

10 A.M.—The following dispatch has been sent by the surgeons in charge, to Doctors Agnew and Hamilton, the two consulting physicians:

EXECUTIVE MANSION, July 5—9.30 A.M.

After you left, the urgent symptoms continued; there was much restlessness, constant slight vomiting, and by 8 o'clock P.M. the President's condition seemed even more serious than when you saw him. Since then the symptoms have gradually become more favorable. There has been no vomiting or regurgitation of fluid from the stomach since 8 o'clock last evening.

The President has slept a good deal during the night, and this morning expresses himself as comparatively comfortable. The spasmodic pains in the lower extremities have entirely disappeared, leaving behind, however, much muscular soreness and tenderness to the touch. There is less tympanitis, and no abdominal tenderness whatever, except in the hepatic region. Since 8 P.M. he has taken an ounce and a half of chicken broth every two hours, and has retained all. The wound was again dressed antiseptically this morning. Altogether, but one-half a grain of morphia has been administered hypodermically during the last twenty-four hours, and it has been found quite sufficient. His pulse, however, still keeps up. At 8.30 A.M. it was 114;

temperature, 100.5; respiration, 24. Seventy-two hours have now elapsed since the wound was received. We cannot but feel encouraged this morning, although, of course, we do not overlook any of the perils that still beset the path toward recovery. The course of treatment agreed upon will be steadily pursued.

D. W. BLISS,
J. K. BARNES,
J. J. WOODWARD,
ROBERT REYBURN.

12.30 P.M.—The favorable condition of the symptoms reported in the last bulletin continues. There has been no recurrence of the vomiting. Pulse, 110; temperature, 101; respiration, 24. The President lies at present in a natural sleep. No further bulletins will be issued till 8.30 P.M., unless in case of an unfavorable change.

D. W. BLISS.
J. K. BARNES.
J. J. WOODWARD.
ROBERT REYBURN.

Besides these official bulletins, it had been stated, prior to July 4th, that the wound was located between the tenth and eleventh ribs, four inches to the right of the median line of the back; that a finger introduced into the wound had felt that the eleventh rib was fractured; that at another exploration the finger had felt the substance of the liver; that a probe had been passed in a distance of three inches. By the two latter examinations the direction of the wound was found to be downward and forward.

On July 4th I made a careful analysis of the symptoms that had presented up to that date, with the following result:

*First.*—A pistol-wound was located between the tenth and eleventh ribs, four inches from the median line of the back.

*Second.*—Upon receipt of the wound the President fell, or rather sank down to the right, not losing consciousness.

*Third.*—Vomiting occurred as he fell, which had continued from time to time.

*Fourth.*—Within five minutes alarming failure of heart's action occurred.

*Fifth.*—Immediate pain of right leg and foot, of the nature of a prickling sensation.

*Sixth.*—Hemorrhage from wound, though not excessive.

*Seventh.*—Lowering of the temperature to 96.8° during shock.

*Eighth.*—Equable, almost normal standard of respiration.

*Ninth.*—Pulse fluctuations from slight causes.

*Tenth.*—Pains in legs and feet.

*Eleventh.*—Slight tympanites.

*Table of seventy-four hours from receipt of wound.*

| | | TEMP. | PULSE. | RESP. |
|---|---|---|---|---|
| July 2d, | 9.25 A.M..... | — | Almost pulseless. | — |
| " | 4 P.M..... | 96.8 | 124 | — |
| " | 11 P.M ..... | 99 | 124 | 20 |
| July 3d, | 1 A.M..... .... | Normal. | 120 | Normal. |
| " | 10 A.M..... . | Normal. | 114 | 18 |
| " | 11 A.M ..... | Normal. | 116 | Normal. |
| " | 6 P.M..... ..... | Normal. | 108 | Normal. |
| " | 10.30 P.M..... | 100 | 120 | 20 |
| July 4th, | 12.30 A.M..... | 99.8 | 112 | 20 |
| " | 8.15 A.M..... | 99.4 | 108 | 19 |
| July 5th, | 8.30 A.M..... | 100.5 | 114 | 24 |
| " | 12.30 P.M..... | 101 | 110 | 24 |

Negative evidence existed which seemed to exclude injury having been inflicted to either of the following parts:

*First.*—An artery or vein of any considerable size.

*Second.*—The pleura, or lung.

*Third.*—The diaphragm (at a point where it is covered by pleura or peritoneum).

*Fourth.*—The right kidney.

*Fifth.*—The spinal cord.

*Sixth.*—The ascending colon, where not covered by peritoneum.

From the President's good general condition up to that time, there appeared a chance that the peritoneum and the organs invested by it—liver, stomach, small intestine, large intestine, and spleen—had escaped injury.

Of the symptoms developed up to July 4th, the fifth and tenth seemed to point to an injury of the right sacral plexus, as the area of distribution of the right great sciatic nerve was the first location of the pains, etc., while the pains of the left leg and foot would seem to have been developed subsequently.

The third and fourth symptoms, in the light of the localizing ones just stated, become contributive in adding weight to the possibility.

It remained to determine how a bullet, entering where the President was wounded, could escape injuring the right pleura, the right lung, the diaphragm, the peritoneum, the liver, the right kidney, the ascending colon, the small intestine, or the spinal column, and the life of the wounded person be spared, by deflection of the bullet in such a peculiar way as to reach one or more of the nerves that contribute to the sacral plexus.

*It seemed to me possible that the bullet had penetrated the tissues superficial to the eleventh rib, impinged upon the rib with sufficient force to fracture it, which force was enough to turn the ball upon its axis, so as to point downward; thence it was deflected downward, forward, and inward; that it had pierced a subpleural portion of the diaphragm (if at all), passed to the anterior surface of the transversalis fascia, posterior to the convex external border of the right kidney, passed through the adipose tissue behind the kidney and ascending colon, following the curve, downward and inward, of the plane of the anterior surface of the muscle-wall of the lumbar region; that it had passed into the iliac fossa, upon the iliac fascia, the posterior part of which it traversed in a direction downward and inward, till it reached the psoas magnus muscle; that it either perforated or passed posterior to the psoas magnus muscle to reach the sacral plexus of nerves, the trunks of which, one or more, it wounded.*

The bulletins of July 5th strengthened my convictions that my theory had some ground of plausibility. To the symptoms which had developed up to July 4th, there had been added: 1st, muscular soreness of lower extremities; 2d, tenderness to the touch of the lower extremities. Of the symptoms of the 4th there had subsided: 1st, the vomiting at 8 P.M. on July 4th; 2d, the spasmodic pains of lower extremities; 3d, less tympanites.

On July 6th I determined to investigate, by actual dissection, the possible track of the wound, whether, anatomically, such a course could be taken by a bullet. I obtained a British bull-dog revolver and the No. 44 cartridges, to determine what kind of a wound of entrance the bullet would make in a human body, its penetrating power at a distance of eight feet, and how much diminution of force would be effected by impact upon bone.

I found upon examination that, as a weapon, its inherent defects were such as to make it one which lacked precision in firing, and diminished the force of the ball. That the cartridge also presented certain peculiarities, which, when it was fired, would tend to diminish its penetrating power and cause a great expenditure of its force upon impact upon any resisting surface.

I fired into a subject several times, and determined the wound of entrance and exit as both smaller than I expected.

*I would here say that no attempt was made to so fire as to repeat the wound inflicted upon the President—*

*that would be impossible—and then track the ball, so as to determine the course it had taken; nor was the attempt made to make the ball so penetrate as to take the possible course advanced.*

A few shots enabled me to obtain all the information I wanted, viz.: that a bullet from the British bull-dog revolver suffers a great expenditure of force by impact upon a bone; that at the instant of its impact it turns on its axis; that if its force is still sufficient to carry it on flatwise through the bone, it makes a large hole in it, splinters it, and carries the fragments before it into the tissues beyond; that if it simply fractures the bone, it is either deflected or stopped in its course.

At the point of wound the following conditions would favor the occurrence of deflection.

The eleventh is the most movable of all the ribs, being free at its anterior end and not steadied, as is the twelfth rib, by a muscle attached to its lower edge. The conditions favorable to deflection by impingement upon and fracture of this rib are: 1st, the mobility of the rib makes it like a hickory twig fixed at one end only, and its swaying upon impact would expend a good deal of the force of the ball; 2d, the external surface of the rib, being convex, tends to deflect a ball (of all bones of the body a rib probably deflects balls most often); 3d, if the eleventh rib is pushed inward from behind it rises anteriorly, and if a ball struck it with sufficient force to fracture it, it would be likely to turn the ball on its axis, and deflect it downward and inward, if already spent; 4th, the clothing of the President must also be considered as an element contributing to diminish the penetrating power of the ball before it reached the rib, but I have no data with reference to the clothing.

Had the ball been turned on its axis, and still had sufficient force for onward progression, it would have crashed through the eleventh rib, splintered it, and carried forward the fragments of bone directly into the viscera beyond. Deflected upward, it would have wounded the lung. Deflected forward along the rib, it might have passed into the abdominal parietes.

A well-developed subject, six feet high, was suspended so that the feet rested on the floor. A twelve-inch trochar, one-fourth of an inch in diameter was made to enter the cadaver exactly at the point of the President's wound, penetrating at a right angle. The object of this was to pin the tissues and organs together, so as to steady them during the progress of dissection. Skin incisions, to include the area of the injured region, were made as follows: The first from the median line to the side, at the level of the upper border of the tenth rib; the second from the median line outward, below the level of the crest of the ilium; the third along the median line of the back united the two internal extremities of the transverse incisions. The flaps of tissue were turned off to the right side of the body. The layers in the track of the trochar were found superposed upon, and were removed in the following order, down to the plane of the ribs: skin, subcutaneous tissue, latissimus dorsi muscle plane, and that of the serratus posticus inferior muscle. The external longitudinal half of the dissection region presented the exterior surface of the tenth, eleventh, and twelfth ribs, and their intervening muscles; below the twelfth rib, between it and the crest of the ilium, the exterior surface of the posterior portions of the abdominal muscles. The internal longitudinal half of the dissection region included the mass of the erector spinæ muscle (sacro-lumbalis and longissimus dorsi portions, in order, from the external limit of the muscle-mass to the spines of the vertebræ), covered by the posterior layer of the lumbar aponeurosis.

The external intercostal muscles were dissected out of the tenth and eleventh intercostal spaces, and the tenth and eleventh intercostal nerves, arteries, and venæ comites were respectively seen running parallel with the lower border of the ribs, the vessels and nerve were close to the tenth rib; and about a quarter of an inch from the border of the eleventh. The costal layer of the pleura filled the tenth and eleventh intercostal spaces, passing to the interior surfaces of the ribs.

The costal layer of the pleura was separated from the eleventh rib for about an inch, corresponding, as near as could be inferred, with the point of fracture of the President's rib, an inch of the rib was then exsected with the bone-forceps. The pleural cavity was now opened, and some contained fluid escaped. The finger was introduced into the pleural cavity downward, so as to determine how low the sac of the pleura descended; a distinct pocket of pleura was found down to the level of the twelfth rib, the bottom of the pocket corresponded with the centre of the twelfth rib, the bottom of the cavity rising toward the spine posteriorly and springing from the tip of the twelfth rib on to the interior surface of the eleventh rib, anteriorly. The contour of the liver was now appreciable, as it obstructed the opening in the chest-wall, covered by three planes of tissue, which were dissected through: 1st, the diaphragmatic layer of the pleura; 2d, the right portion of the diaphragm; 3d, the peritoneal lining of the diaphragm. Opening the peritoneum at the side of the penetrating trochar, the thick lateral superior border of the right lobe of the liver obtruded. Dissecting the diaphragm away from the interior of the eleventh rib, and below it, the superior external border of the right kidney presented, without meeting with pleura or peritoneum.

A large director was passed in the eleventh intercostal space, below and on a line with the fixed trochar, so as to reach the anterior surface of the transversalis fascia without perforating the pleura, peritoneum, or diaphragm (except at a point where the latter is not invested by pleura and peritoneum). As the director passed downward, it followed the plane and curve of the loin forward and inward. The twelfth rib was cut through with bone-forceps opposite the external limit of the erector spinæ muscle-mass, and dissected out, carrying away the attachment of the diaphragm and other muscles to it. The planes of the muscles of the abdominal wall below the twelfth rib were incised through, along the line of the director down to the crest of the ilium. The twelfth intercostal nerve superficial to the plane of the transversalis muscle was seen; in the plane interior to the transversalis muscle, the ilio-hypogastric and ilio-inguinal nerves were dissected out, and seen to run parallel with the crest of the ilium and around the side. The hand was now passed into the superior portion of the opening, through the abdominal wall, onto a mass of fat which lies behind and along the external convex border of the kidney, and opposite the longitudinal sulcus, where the peritoneum is reflected from the anterior surface of the kidney to the interior of the abdominal wall at the external longitudinal limit of the lumbar region.

The fingers and palm of the right hand—standing at the left of the subject as they were introduced—entered at the upper part of the incision made along the director, and touched the fat at the border of the

right kidney, and the sulcus where the sac of peritoneum passes from the anterior surface of the right kidney to the parietes of the abdomen, at the side wall of the abdomen. Insinuating the fingers between the lips of the incision through the parietes, to the anterior surface of the transversalis fascia, the back of the fingers lay upon the transversalis fascia, and their palmar surfaces impinged upon the fat and areolar tissue behind the kidney and the ascending colon anteriorly—where the colon is not covered by peritoneum. Crowding the colon forward, the external lateral reflection of the peritoneum (external fold of ascending meso-colon) from the external side of the ascending colon to the abdominal parietes will be appreciated, and can be readily separated from the transversalis fascia.

Just above the crest of the ilium, near the external psoas magnus, recognizing the anterior crural nerve, and beyond it the obturator nerve, the lumbo-sacral cord of the sacral plexus, and even the anterior surface of the sacral plexus, and pyriformis muscle may be appreciated. With the fingers thus crowded into the pelvis the internal iliac artery and its branches with their venæ comites were pushed forward toward the median line, carrying fascia before them.

A second subject was suspended and another dissection was made, from which it was intended to obtain a drawing of the contained organs, and which is given. (Figure 1.)

Figure 1 is a photo-engraving of the drawing, and the illustration is correct, with the exception that the weight of the liver has caused it to fall a little lower than normal, carrying the kidney with it, and likewise the diaphragm.

*Fig. 1*

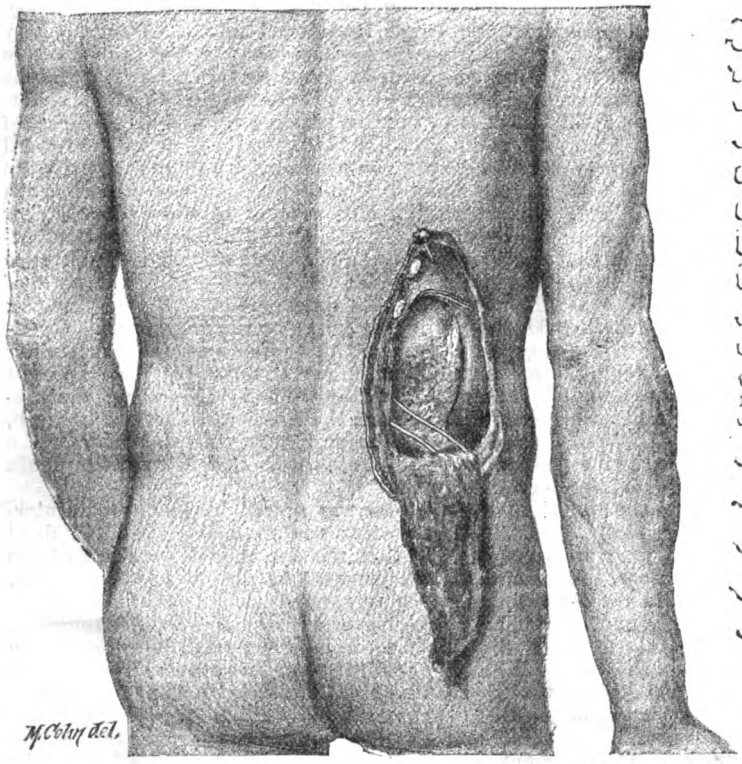
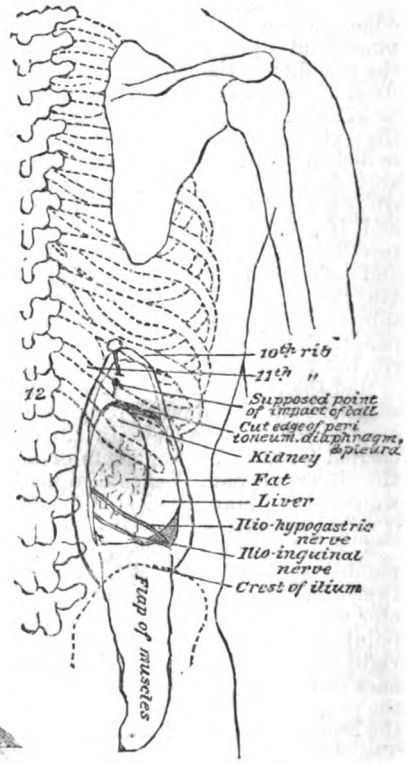



*Fig. 2*




limit of the erector spinæ and quadratus lumborum attachments to the crest of the ilium it is, that the ilio-hypogastric and ilio-inguinal nerves pass from the anterior surface of the quadratus lumborum muscle onto the transversalis muscle, between it and the transversalis fascia. From this point the fingers slid readily into the iliac fossa over the middle of the crest of the ilium; the palmar surfaces of the fingers upon the iliac fascia, the nail surfaces crowding against the cæcum of the large intestine, where the same is not covered by peritoneum. The peritoneum is reflected from the sides of the cæcum to the wall of the iliac fossa—the meso-cæcum.

The fingers may pass on easily to the external surface of the psoas magnus muscle, where a sulcus presents between the latter muscle and the iliacus internus muscle; tearing through the fascia, which bridges from one muscle to the other across the sulcus, the fingers may be insinuated behind the

Figure 2 is a schematic key of figure 1. In it the fall of the liver has been corrected; the spot of supposed impact of the ball on the eleventh rib should, I think, be nearer the centre of the bone. The steps of this dissection were as follows:

*First.*—A glass headed pin about five inches long, was entered in the tenth intercostal space, four inches from the line of the spinous processes of the vertebræ (the spot was confirmed by Prof. Hamilton, as the point corresponding to which the bullet entered the President's body); the pin was entered at a right angle, to fix the parts only, having no reference to the course of the ball.

*Second.*—A triangular flap, including all the layers from the skin to the plane of the ribs was made, with its apex on the tenth rib above the penetrating pin; the lateral incisions of the compound flap was turned downward on to the gluteal region.

*Third.*—The eleventh and twelfth intercostal mus-

cles were dissected as far as they were exposed out of the tenth and eleventh intercostal spaces.

*Fourth.*—The vessels and nerves of the tenth and eleventh intercostal spaces were recognized and cut away.

*Fifth.*—An exsection was made of an inch of the eleventh rib at its supposed point of fracture.

*Sixth.*—The oblique line of the reflection of the pleura from the costal wall on to the diaphragm was appreciated and then cut away.

*Seventh.*—Exsection of the twelfth rib outside of the erector spinæ muscle was made.

*Eighth.*—The posterior portion of the abdominal muscles was cut away, recognizing the twelfth intercostal vessels and nerve exterior to the transversalis.

*Ninth.*—The ilio-hypogastric and ilio-inguinal nerves were dissected out, and preserved in situ; in the plane between the transversalis muscle and the transversalis fascia.

*Tenth.*—The layers upon the superior convexity of the liver were recognized in their order: pleura, diaphragm, and peritoneum.

*Eleventh.*—The peritoneum was opened and the thick superior portion external border of its right lobe recognized.

*Twelfth.*—The fat posterior to the kidney was appreciated and partly dissected away to bring the kidney into view.

*Thirteenth.*—The peritoneum was slit along the external border of the right lobe of the liver, and the reflection of the peritoneum from the external border convexity of the kidney to the abdominal parietes was seen, as it comes out from the anterior surface of the kidney.

On the morning of Thursday, July 7th, I called upon Professor Frank H. Hamilton, M.D., and stated to him my theory of the possible deflection and course of the ball, giving him my reasons therefor. I then asked him to give me a detailed statement of all the facts in the case at the time of his visit to Washington. This he kindly gave me, and, among other symptoms, stated that the President had called attention to a peculiar sensitiveness of the skin of the right side of the scrotum. An injury to the ilio-hypogastric and ilio-inguinal nerves, which lie in the supposed track of the ball, according to the theory advanced would account for this peculiar sensation. Injury to the sacral plexus would also account for it. Encouraged by Professor Hamilton, I repeated my dissections on July 7th, and he made an appointment to be present at a demonstration of the same on the following day. On July 8th, I obtained several cadavers resembling the physique of the President, and at two P.M., in the presence of Professor Frank H. Hamilton, M.D., Dr. George F. Shrady, and other professional gentlemen, I repeated the dissections, pistol-firing, etc.

The following letter explains itself:

My Dear Doctor—I have from the first sought to encourage you in your present line of study; not because I had by any means determined in my own mind the course of the bullet, but because it seemed proper to determine anatomically all the possibilities in the case. I also encouraged you to give your results to the profession through the secular press, in order that they might more promptly be subjected to the criticism or approval of medical men. Yours truly, FRANK H. HAMILTON.

July 11, 1881.

A special application of the above anatomical observations to the appreciation of the President's wound must take into consideration his peculiarly robust physique.

The mass of fat located on the anterior surface of the posterior portion of the transversalis muscle and the quadratus lumborum muscle is probably, in the President's body—judging from his physique as pictured and described—from one and a half to two inches thick. This fat is continued, to a certain extent, in such a well-nourished organization, into the iliac fossa as well.

Given a bullet that has, by impact upon and fracture of the right eleventh rib, been deflected downward and forward into this layer of fat behind the external border of the right kidney, it is not difficult to conceive how, with its already expended force of progression, it could continue in the direction of least resistance through the adipose tissue, taking the inclined curve downward and inward of the anterior surface of the muscle-mass of the lumbar region into the iliac fossa; perforate the fascia in the sulcus between the iliacus internus and psoas magnus muscles; or perforate the latter muscle, and so reach the lumbo-sacral cord, or one of the sacral nerves in the right half of the pelvis, and thus inflict more or less injury to one of the contributing trunks which form the sacral plexus.

Here I would state that it was repeatedly observed by myself, and verified by Prof. Hamilton and Dr. Shrady, that a finger on the sacral plexus could be felt by rectal examination.

The fact that the ilio-hypogastric, and ilio-inguinal nerves—usually the latter—distribute to the scrotum, and that they cross the possible track of the bullet, presents a most important element in the anatomical solution of the case. It will also be remembered that the skin of the scrotum is supplied from the sacral plexus by the perineal branches of the pudic and inferior pudendal branch of the lesser sciatic.

A difficult anatomical point to determine presents in the case of fracture of the eleventh rib, viz.: to appreciate the oblique line of pleural reflection from the costal wall to the diaphragm from behind upward and forward.

Had it been the twelfth rib that was fractured, there would be no difficulty in eliminating the inferior limit of the reflection of the pleura from the diaphragm, in case of deflection downward and forward.

For the purposes of this case we must consider the diaphragm as divided into a pleural and subpleural portion, relative to the line of reflection of the pleura from the circumference of the arched thoracic base to the superior surface of the diaphragm.

A man of the robust physique and ample chest of the President has a powerful diaphragm, with a large mass of sub-pleural muscular structure posteriorly. He has a large, heavy liver. His lungs are in a constant state of distention, amounting to that of full inspiration of a less powerful physique. The upper edge of his right kidney is probably on a line with the lower border of his eleventh rib.

In walking, the weight of his liver would hang forward away from the posterior wall and still further tend to depress the diaphragm and increase the thickness of its subpleural portion.

In walking his pleural reflection opposite the vertical line of the bullet-wound would be at the eleventh rib, to the median line side of the wound of entrance.

# A NEW CURRENT OF INDUCTION ELECTRICITY;

## Or, a New Method of Producing Electrical Nerve and Muscle Reactions.*

By WILLIAM J. MORTON, M.D.,

NEW YORK,

PROFESSOR DISEASES OF THE MIND AND NERVOUS SYSTEM, UNIVERSITY OF VERMONT; PHYSICIAN TO DEPARTMENT FOR NERVOUS DISEASES, METROPOLITAN THROAT HOSPITAL; MEMBER NEW YORK ACADEMY OF MEDICINE, ETC., ETC.

In a paper on Statical Electro-therapeutics or Franklinism, read before the New York Academy of Medicine, March 3, 1881, and printed in the New York Medical Record of April 9th, I stated that an induction current could be obtained from the frictional induction electric or Holtz machine, and that this current produced nerve and muscle reactions similar to those produced by the induction currents now in common medical use under the general designation of faradism.

This current I claimed to be novel, probably, to the physics of electro-statics, and certainly to medical practice. After the reading of the paper, the very simple manner of producing the current from the Holtz machine, and its reactions, in the persons of many members of the Academy were demonstrated, and it was generally conceded that, as compared with the ordinary induction currents now in use, the static-induced, as I ventured to name it, produced maximum muscular contractions with a minimum amount of pain.

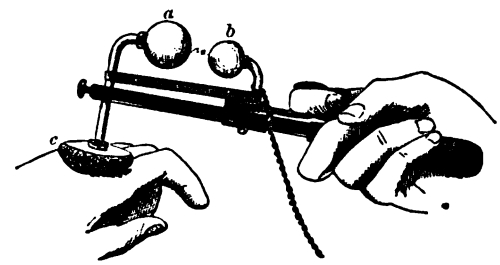
The object of the paper referred to was to call attention to the neglected claims of frictional electricity, or franklinism, as produced from the Holtz machine and its modifications, in the treatment of disease, an object toward whose attainment I felt the more impelled, since there existed at the time in American medical literature no treatise or publication to which the physician could apply for guidance and information on the subject. For, though of sporadic instances of the individual medical use of statical electricity there were doubtless many instances, no systematized effort at its introduction into practice had been made.

It is gratifying to note the interest in the matter that has now sprung up. Many electrical machines of a variety of patterns have been ordered of the makers, and we may soon expect to hear reports for and against the revived method.

Having, then, already elsewhere treated somewhat fully the general subject of statical electricity in its medical applications, I have nothing further to add until the experience of others comes forward to criticism.

In the meantime the only element of strict novelty in the revival of franklinic electricity is the induction current referred to, which places in the hands of the practitioner in the same machine, as I shall point out, both franklinic and faradic electricity. For this reason of novelty, as well as on account of the intrinsic interest and worth of the current to neurologists, I wish to emphasize, and to present the subject briefly to the members of the association.

Very soon after I began the study of the medical properties of statical electricity, my attention was struck by accidentally receiving from the conductors of the machine, a thrilling sensation and contraction of the muscles, which exactly recalled the ordinary faradic current. Following out the clue thus gained, I constructed a new electrode for obtaining muscular contractions at any given point, by means of the spark, while yet not allowing the spark to come in contact with the skin. This electrode I will describe briefly. Its main principle rests in the fact that if two statical and sustained potentials in the act of discharge are interrupted in the circuit by a series of spark discharges, the effect upon muscular fibre in some remote part of the current removed from the spark discharge is to be thrown into contraction. The accompanying cut illustrates the mechanical construction of the electrode. Sparks of a desired and given length between (*a*) and (*b*), the distance between which may be regulated at will, cause muscle and nerve reactions beneath (*c*), a wet sponge. The patient in this instance is not insulated.




I used this electrode for some time to avoid the pain of the sparks administered to children and timid subjects. But it soon became evident that the physiological effects of the spark and of the current thus interrupted were not identical, and I finally restricted the use of the electrode to those cases in which I had previously used the faradic electrodes, as, for instance, in exciting individual muscles, as in Bell's and other paralyses.

The more I used the electrode the more striking became the principle involved, and I proceeded with various experiments which I will not detail. The nearest approach to final success was an adjustable break in the circuit of the ordinary conducting wires held in the hand and connected with the two condensers of the machine. This caused merely a series of heavy, jerking discharges, and corresponding contractions, far from the smooth current desired. I next attached one conducting wire and electrode to the inside of one jar, and the other to the outside of the second jar, producing in this way a very fair resemblance to the faradic current. Finally, the effect desired, viz., a smooth and agreeable current, producing strong muscular contractions, was at last secured in a manner as simple as efficacious. It is as follows: We remove the connecting-bar or chain between the two *outer* coatings of our Leyden-jars, connect our conducting-wires, armed at one end by a small hook or by a clasp, to each outer coating respectively, and finally, connect as usual the two inner coatings by the discharging-rod or rods. The subject or patient now takes hold of the two electrodes, not requiring, of course, to be insulated. As soon as the machine is set in motion and electricity generated, the discharging-rod or rods may be drawn out a very small fraction of an inch, and at once a current is felt between the two sponge-electrodes, which, in its general characteristics, cannot be distinguished from the ordinary faradic current. This current I have ventured to call the static-induced current. The muscles to which it is applied at once

* Read at the annual meeting of the American Neurological Association, New York, June 16, 1881.

spring into energetic contraction. The response, I am persuaded, is quicker than that evoked by the induction currents in general medical use. Supposing, as experiments show, the time usually occupied by a muscular contraction is about one-twentieth of a second, preceded in each instance by a latent period, it would appear with the static-induced current that the latent period is curtailed, while at the same time Hallerian irritability is more rapidly evoked. This is a point, however, which could only be determined by careful experiments in the physiological laboratory. The obvious deduction in practice is that, in cases where it is of diagnostic value to determine early loss of faradic excitability, this can be done by very delicate currents of the static-induced. It is then a delicate test for the state of muscular irritability.

This current is, furthermore, soft and agreeable, and produces no shock. As has been said, it produces a maximum of muscular contraction with a minimum amount of pain. A comparison with the sensations experienced from a Rumkorf coil, a magneto-induction apparatus, or an ordinary galvano-faradic instrument, amply sustains this assertion. In treating children, the painless character of the current is an important consideration. Another peculiarity of the current is its high tension, indicated by its disposition to jump from the conducting-wires in the form of fine prickling sparks. To prevent this—disagreeable alike to physician and patient—it is necessary to have the conducting wire or chain well insulated from the sponge upward. My electrodes are made with glass tubes for handles, while the wires are encased in ordinary black rubber tubing.

The strength of the current may be regulated to a nicety by means of the discharging-rod or rods, ranging from an almost imperceptible tingle up to extreme and rigid flexion of the arms, should, for instance, the electrodes be held in the hands. To be obtained at its best, the electric machine must be generating a considerable *quantity* of electricity. If this is not the case, the tension at the same time remaining high, a "jerky" character in the current becomes evident.

The static-induced current will not, of course, be confounded with the series of discharges taking place between the inner coatings of the jars. This latter, in silent current forms, produces no muscular contractions or sensations of any kind. In repeated discharges, caused by an interruption in the circuit, it is too painful to be borne.

The modification in the manner of producing the muscle and nerve reactions thus far described, by means of the static-induced current, by connecting one conducting wire and electrode to the *inside* of one Leyden-jar and the other to the *outside* of the second jar, has been already referred to. Thus produced, the current is not as smooth as when taking its sources from the outside of both Leyden-jars, but this method may be pursued if desired.

The rationale of the term static-induced current and of its production would seem to be this: It is static, because its source is static electricity, just as we say, galvanic induction electricity. It is induced because the outer coatings of Leyden-jars are electrical by induction in the same manner as the secondary coil is electrical. The inside of the jar may be said to correspond to the battery current of an induction coil—the outer coating to the secondary current. It is a current because it is an equalization of two potentials along a conductor, as in a galvanic current, where we have a + and a — potential. And to carry the analogy to the secondary current of an induction coil further, the interruptions at the discharging-rod in spark form may be said to correspond to the interrupting hammer of the faradic apparatus. Each spark causes a rise and fall of potential in the interior of the two Leyden-jars, and, as a consequence, a corresponding rise and fall in the induction of the outer coating. We have thus two supplies or potentials of opposite induction electricity on the outer coatings, and with each spark as many waves or induction impulses, whose strength is determined by the strength of the spark, that is to say, by the amount of the discharge permitted between the insides of our two Leyden-jars.

This, then, is an entirely new current in medicine, and it is not a little curious that, with all the experience with frictional machines, it should have remained undiscovered up to the present day. The three main methods of administration of static electricity up to the time of the publication of my paper were by insulation, by sparks, and by shocks; the new current adds a fourth, which greatly widens the scope of medical statical apparatuses, for by the simplest of arrangements the frictional machine is converted into a machine which will do all the work of the best faradic machine.

We thus have at command in a frictional machine all of faradism, in addition to the static electricity; for working purposes we have all the advantages of both systems. We have, moreover, a current superior to the faradic currents in use, in that it produces the muscle and nerve stimulation with a far less amount of pain. The new current, then, has a record yet to make, and I venture to hope that it may have a therapeutic future.*

15 East Forty-fifth Street, June 13, 1881.

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Inunction as a Remedy for Local Inflammation.—Dr. Edward T. Williams, in a letter to the *Boston Medical and Surgical Journal*, highly recommends the old-fashioned remedy of applying oil or grease externally for acute inflammations. He has used it for years, and finds it a very efficient substitute for a poultice. In almost all forms of acute inflammation of the thoracic and abdominal viscera, also in inflammatory sore-throat, abscesses, and some cutaneous eruptions it is very valuable. He generally orders lard, which is to be found in every household, simply rubbed upon the skin and covered over with a piece of flannel. If a stimulating effect is wanted, he adds a little salt, when the mixture answers as well as camphorated oil.

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* It has often been noted, that in the presentation of novel subjects, a number of minds have been working in the same direction, while in this unconscious race he who first struggles to the goal of publication wins the title of priority. This seems to have been true of the little current and its reactions I have described. For, having given it forth in full in my paper of March 3d, I was both surprised and gratified to find that our distinguished president had also been going over the same ground and had embodied his results in his very valuable t eatise on Medical Electricity, issued in May last. I can best refer to this unexpected and to me very agreeable corroboration of my results by quoting from Dr. Bartholow's letter to the New York Medical Record of May 7th:

"In the last three issues of your valuable journal have appeared very interesting communications from Dr. William J. Morton, of New York, on the subject of the Holtz Electrical Machine.

"In his first paper he anticipated me in the publication of observations on the Holtz Machine, which will appear in my Treatise on Medical Electricity, the printing of which has been completed and is now in the binder's hands. At the last moment I was able to append a note to the preface, calling attention to the appearance of Dr. Morton's paper on the subject, which I had announced as novel."

I do not need to refer to the courtesy which dictated this prompt acknowledgment from Dr. Bartholow.

It is certainly extremely satisfactory to find from thus eminent authority this independent confirmation of results, which I had already thought worth while bringing to the notice of the profession.

## A CASE OF
## FOREIGN BODY IN BLADDER—MODIFIED LATERAL LITHOTOMY.

By F. E. AINSWORTH, M.D.,
ASSISTANT SURGEON, UNITED STATES ARMY.

H. W. H——, aged fifty, born in Massachusetts, single, and by occupation a miner, was admitted to the Hospital of the Sisters of St. Joseph, Prescott, A. T., on April 14, 1880, with symptoms of vesical calculus. The following history was elicited from him: He had been a masturbator from boyhood, and during all this time had been in the habit, more or less frequently, of introducing straws or long stems of grass into the penis for the purpose of provoking an erection and producing the sexual orgasm. This practice continued without accident or ill effects so far as he could discover, until 1852 or 1853, when, while using a large straw in his customary manner, a portion about five or six inches in length was broken off within the penis, and during his subsequent efforts to extract it, slipped or was forced into the bladder. He felt no inconvenience afterward and was able to pursue his avocation, that of a farm laborer, uninterruptedly. Several weeks after the introduction of the foreign body, while he was straining at stool, it entered the urethra and was, with a great deal of pain and difficulty, expelled; it was encrusted with calculous deposit, and, patient avers, was increased to a size larger than that of a lead pencil. No further symptoms arose, and, undoubtedly, as he says, the calculus and its nucleus, were wholly evacuated. Not deterred by this accident, he continued his practice, with no effect perceptible to himself, except the pleasurable sensation produced at the moment, until November, 1879, a period of nearly thirty years. In November last he introduced as he had often done before, a large hollow straw, or grass stem, into which, for additional security, he had thrust a smaller stem, thus filling up the canal, and rendering the straw stiffer and less liable to break. On attempting to withdraw the two, however, the inner stem, which during his manipulations had probably become projected into the cavity of the bladder, beyond the extremity of the outer stem, was gripped at the vesical neck, or in the urethra, and was left behind as the outer one was withdrawn. His subsequent attempts to reach and remove it, which were made with a blunt iron wire, were futile, and at last the straw slipped entirely beyond his reach, into the bladder undoubtedly.

For two or three weeks he had no trouble whatever, but at the expiration of that time he began to experience a constant desire to urinate, pain over the pubes and in the penis; urine thick, muddy, tinged with blood, etc. These symptoms steadily increased in severity until about the middle of February, when he passed with his urine, as he says, "about half a tablespoonful of gravel." No improvement in his vesical trouble followed, but he continued at intervals to void with his urine larger or smaller concretions, until March 15th, when he passed several much larger than the previous ones, three of which measure three-sixteenths of an inch each in diameter, and together one inch and a quarter in length. In each of the pieces, which are phosphatic in composition, can be seen the straw which formed the nucleus. The patient informed me that these three stones are only about one-sixth of what he passed at this time. The remainder he lost or threw away, but some of them were very much thicker and longer than these which he brought to me. Notwithstanding the escape *per vias naturales* of so large a quantity of calculous matter, he grew steadily worse, until he was obliged to discontinue his work, placer-mining. On April 12th he presented himself to me with the above history, and on April 14th was admitted to the Sisters' Hospital, which was under my charge. On admission the patient appeared to be a man of fairly good physique, but of decidedly weak intellect; complained of constant pain above the pubes, in the rectum, and running down into the penis; stream of urine sometimes free, but often suddenly stopping with acute agonizing pain, followed by passage of blood; pain during movement of any kind, especially riding. His urine was thick turbid, and offensive, containing gelatinous pus, mucus, and blood.

Passing a sound into the bladder, I at once detected a calculus, but further examination, as to the size, number, location, etc., was rendered very unsatisfactory because the organ would retain hardly an ounce of urine or injected water, and was intolerant of much manipulation. The finger in the rectum revealed considerable enlargement of the prostate. The patient was put on general treatment, and efforts were made to improve the condition of his bladder sufficiently to render the crushing operation practicable, but on June 5th, no progress having been made, I determined to perform the operation of lithotomy, which I did on the following day, June 6th. The patient was anæsthetized with ether, and in the presence of and with the assistance of Surgeon J. C. McKee and Surgeon A. K. Smith, U.S.A., and Drs. Lincoln and McCandless, of Prescott, I performed the lateral operation. The external incision was made in the usual manner, but after opening the urethra in front of the prostate, I barely nicked that gland, and then dilated it with my finger, as in the median method, intending, should the stone or stones prove larger than was expected, to enlarge the opening in the prostate by the bilateral incision, if need be, which, with the free external incision already made, would give abundant room for extraction. Fortunately the opening already made was sufficient. With a pair of small but very strong and sharply curved forceps I seized and extracted four calculi successively, two of which were encysted, and required to be freed from their bed by the scoop before extraction was possible. These stones are about three-eighths of an inch each in diameter, and together measure three and a half inches in length. In the centre of each of them, as in those passed per urethram, can be seen the straw which served for the nucleus; like the latter, also, they are phosphatic in composition. No accident occurred during the operation, and no particular difficulty was experienced, save in the loosening of the encysted stones. The transversus perinæi artery required to be closed by torsion. The bladder was washed out with warm water, the wound loosely filled with lint saturated with carbolized oil, and the patient put to bed. He rallied well from the operation, and two hours afterward was entirely free from pain—in his own words, "had gotten out of hell into heaven," so relieved was he from the pain which he had suffered for months. On the following morning his temperature was 100°, and his pulse 90; on the third day his temperature was 99¼°, and his pulse 80. On this day the urine began to flow partially through the urethra. On the fifth day his bowels, hitherto confined by opium, were moved by a dose of castor-oil.

At this time the urine was passing almost entirely by the urethra. On the sixth day epididymitis of the left testicle was lighted up, and a day or two later the right testicle became swollen and tender, though not so much as the left. For a few days they were kept supported and enveloped in large hot flaxseed poultices; afterward extract of belladonna, rendered fluid by the addition of glycerine, was applied thickly on sheet lint, and the whole closely wrapped up in oiled silk, and a bandage applied very tightly over all. In a short time the pain and tenderness disappeared. On June 24th, just three weeks from date of operation, he was able to walk around the hospital. At this time he was entirely free from pain, had no difficulty in retaining his urine as long as he wished, and no trouble whatever in voiding it; very little urine flowed through the wound after the fifth, and none at all after the seventh day.

Fort Clark, Texas, June 17, 1881.

# Reports of Hospitals.

## NEW YORK HOSPITAL.

NOTES OF PRACTICE AND PECULIARITIES OF TREATMENT.

SERVICE OF DR. WILLIAM H. DRAPER.

### CATALEPSY FROM THE USE OF ABSINTHE.

A stout, red-faced Frenchman, addicted to the use of absinthe, was admitted to the hospital, suffering from catalepsy. Any position the limbs might be made to assume they would retain, independent of will-power. Dr. Draper mentioned the case to illustrate the fact that there was hardly any organic nervous disease which could be simulated by a functional derangement. Every disturbance of motion or sensation may be produced by alcoholism, a fact of importance from a prognostic point of view. The patient recovered in a very short space of time.

### INTERMITTENT FEVER OF THE PERNICIOUS FORM.

This patient had been admitted four days previously. He was brought in unconscious, sweating profusely, with a high fever, subsultus, and every evidence of extreme prostration. The only history obtainable was that he had recently arrived from the Orient, having suffered from fever while at sea. The symptoms and periodicity of the disease indicated pernicious intermittent. The administration of medicines by the mouth was found to be impossible. In two or three days, forty grains of quinine were given hypodermically, a quantity equal to two drachms by the stomach. The effect was most happy; the remedy restored consciousness, and caused the patient to cry out for food. Temperature on the fourth day, 93°, pulse 68, respiration 16.

### EXOPHTHALMIC GOITRE TREATED BY QUEBRACHO.

The patient was a woman thirty-seven years of age, of neurotic temperament, and suffering from menstrual derangement. Dr. Draper remarked that organic lesions of the heart were frequently diagnosed in Graves' disease when only functional derangement exists. Where moral causes, grief, disappointment, shock, are at the root of the evil, time was the great restorer. Exophthalmic goitre dependent upon anæmia, chlorosis, menstrual trouble, dyspepsia, or plycosuria, demanded treatment directed to the conditions with which it was associated. This patient was put upon iron in the form of a carbonate, digitalis, and the alkalies. Rest was imperative. Patients of this class were liable to congestion, epistaxis, and œdema of the lungs, under an exaggeration of the original neurosis. This woman had an attack of pulmonary œdema which was associated with exaggerated resonance, and an entire absence of moist râles. She was relieved by the use of quebracho, morphine, nitrite of amyl, and local remedies. Two weeks later the patient had so far improved, under the use of iron and cardiac stimulants, that she was able to walk about the wards. Dr. Draper has employed the iodide of potassium under similar circumstances, with gratifying results in a few cases.

### NERVOUS DYSPNŒA IN A CASE OF SMALL GRANULAR KIDNEY.

On examination of this patient's lungs, breathing was found to be excellent, air entered without obstruction; there was no fluid, and moist râles indicative of œdema were absent; breathing was dry, and there was apparently no congestion whatever. Notwithstanding this, the man suffered extremely from dyspnœa, especially at night. This form of dyspnœa was rather more apparent than real. It was not associated with any obstruction of the air-passages, but depended upon some nervous derangement. It existed in connection with chronic renal disease. This patient's urine was copious, light-colored, of low specific gravity, and contained as a rule about three per cent. of albumen, but occasionally only a trace. He had no œdema.

It is in this form of renal disease, the small granular kidney, that this dyspnœa develops itself. It may be the result of disease of the respiratory centres, or simply a disordered sensation. In the former instance, it occurs in that anæmic condition which is sooner or later the result of chronic renal trouble. In this case it was merely a disordered sensation, no evidences of defective circulation being noticeable. Digitalis and diffusible stimulants would have been of no use to this patient, affording him only a respite of a few minutes. This sensory disorder demands opium. Morphine administered hypodermically affords the most prompt relief. Two minims should be injected at the beginning, and if this quantity fail to relieve, it may be increased to four, five, or six minims.

### RHEUMATISM WITH MANIA A POTÛ.

The patient, a pretty hard drinker, came in with well-marked rheumatism and a high temperature. He was put upon a drug which was said to have a remarkable power in controlling rheumatic fever, but was unsuccessful in this case. After four days he was put upon salicylic acid. The temperature fell from 102° to 98° the following day, in the afternoon of which he began to be delirious. This delirium was not the result of a metastasis of the rheumatism to the meninges, which Dr. Draper believes always occurs in connection with hyperpyrexia; the patient's temperature had not been higher than 101° since he had the delirium. Though the fever was not high, the prostration was excessive and subsultus well-marked. To overcome the insomnia by means of opium is no longer held to be an important element in the treatment of mania a potû, nor is it now regarded dangerous to withdraw stimulants. Food should be given, and if patients will take it they may be considered safe, even if they do nc

sleep. In the severer forms, the means of procuring sleep are the bromide of potassium and chloral. As a rule, stimulants should not be given.

SUBACUTE PLEURISY—CARDIAC DISPLACEMENT.

The patient, a man thirty-eight years of age, was admitted to the hospital in the beginning of August, suffering from shortness of breath, cough, and palpitation of the heart. Six months prior to his admission he had had pleurisy for six weeks. On the day of admission his temperature was 101.2°. August 3d, physical examination showed loss of expansion of the chest on the left side, with bulging of the intercostal spaces. Palpation revealed a lack of expansion on the left side, together with a loss of vocal fremitus, and the fact that the heart-apex beat half an inch below the right nipple. On percussion, flatness was obtained all over the left chest; the base of the heart was not displaced. Auscultation showed a complete absence of vesicular murmur on the left side, and increased breathing on the right. Friction râles were heard on the right side, with cog-wheel respiration at the apex. Vocal resonance was increased on the right side; on the left there was bronchial resonance almost bordering on pectoriloquy. Shortly after admission the patient was tapped, and nineteen ounces of fluid drawn off; on August 6th, twenty-four ounces; then about thirty ounces each day for three days in succession. On the 9th of August, after aspiration, vesicular murmur was heard in the left chest and vocal fremitus could be appreciated. The apex of the heart beat an inch and a half to the right of the left nipple. August 12th, apocynum cannabinum was administered. August 24th, thirty-four ounces of *clear serum* were drawn off. September 9th, the chest again contained fluid. September 20th, the fluid was still clear. Iodide of potassium administered daily. November 2d, the cavity of the left pleura was again full of fluid. Infusion of digitalis was then given, and the quantity of urine on November 5th was sixty-four ounces, and on November 7th, sixty ounces. November 8th, the heart was still displaced to the right, the apex beating about an inch and a quarter inside of the right nipple, in the fourth intercostal space. November 15th, on physical examination, slight vocal fremitus was obtained on the left side, and breathing for some distance below the clavicle on the same side. The level of flatness was depressed, but the heart was still displaced to the right side. The patient was passing about sixty ounces of urine a day. Tapping had been abandoned, and he was put upon digitalis, iodide of potassium, and good diet. His temperature had been moderate since he entered. This case was interesting, because, in spite of repeated tappings, the fluid in the chest had remained serous and clear. [The subsequent history indicated favorable progress.]

GASTRIC ULCER.

The patient was a waitress. Rectal alimentation was resorted to, but failed. When this happens, milk, concentrated broths, and but very little starchy matters are to be given by the stomach. Starch is to be mixed with the milk, in order to prevent the gastric irritation resulting from large flakes of coagulated caseine. The use of bitter waters each morning, to relieve the catarrhal condition of the stomach and to wash out the mucus, is recommended.

SECONDARY SYPHILIS WITH EARLY NERVOUS MANIFESTATIONS.

The patient, a young man twenty-three years of age, denied the existence of any venereal taint, but was convicted of the same by a cicatrix on the penis and a papular eruption on the legs. The case was interesting on account of the occurrence of nervous symptoms early in the disease. Two years and a half prior to his admission the patient began to suffer from attacks of the petit mal, coming on at first once a week, and during which he lost consciousness and fell. These seizures generally lasted about half a minute, and were not accompanied by biting of the tongue or other injury, or by voiding of the urine. Later the attacks became less frequent, occurring about once in three months. These early nervous manifestations are to be distinguished from those connected with the tertiary and quaternary periods. Now and then these attacks of petit-mal, even of convulsions, followed by temporary aphasia or by loss of power, and a variety of other nervous phenomena, are seen in secondary syphilis. These early nervous signs of constitutional syphilis are transient, and depend upon a local hyperæmia, probably upon just such lesions as occur in the skin during the early stages of the disease.

## HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA.

### CLINICAL LECTURE,

### ON CASES OF HYDROCELE, PALMAR ABSCESS, CLUB-FOOT, AND CONTRACTED KNEE.

BY JOHN ASHHURST, JR., M.D.,

PROFESSOR OF CLINICAL SURGERY.

CURE OF HYDROCELE.

GENTLEMEN: The first case that I have to show you to-day, although no novelty in the clinical amphitheatre, is one, at least, that is always of interest.

The patient tells us that, eight or nine months ago, he noticed, on the left side of the scrotum, a swelling, small at first, but gradually increasing in bulk, until now, by its size and weight, it has become a source of great annoyance. Upon examination, I find quite a large tumor; the skin over it thin, and almost transparent, with some, though not well-marked, enlargement of the superficial veins. The tumor is itself pyriform in shape; in consistency, quite soft and almost fluctuating. I notice, also, that its weight is much less than a mere view of its bulk would lead us to suppose. From what we have already ascertained as to the history of the slow growth of the swelling, as to the symptoms from which the patient suffers, and as to the feel and specific gravity of the tumor, as revealed by palpation, we can at once, without going through with the usual test of transmitted light, proceed with the inference that we have here to deal with a hydrocele, or with hydrocele fluid.

There are two operations to which we can resort in the treatment of hydrocele, namely: the palliative, and the radical. The palliative treatment, which I will employ in the present instance, will, in all probability, be followed by a gradual return of the effusion, until the tumor may equal, or exceed, its present size. By the time that the fluid again accumulates in sufficient quantity to be withdrawn, the patient will, no doubt, be prepared to submit to the radical operation, to be hereafter described.

In proceeding to operate after the palliative

method there are two dangers, both of which one must be careful to avoid, namely: injury done to the superficial veins, but, more important still, to the testicle itself, which in this case, as is usual, is situated at the back of the tumor. Seating our patient on the edge of a chair, anæsthetization being unnecessary, we at once, with a direct thrust, plunge a small trocar and canula into the tumor (avoiding the dangers already alluded to), with sufficient force to pass through all the intermediate tissues at once. When the point is felt to be free within the tunica vaginalis, let the end of the instrument fall, and withdraw the trocar. You will observe that, on the withdrawal of the trocar, a clear, amber-colored fluid, characteristic of hydrocele, flows freely into the basin held by an assistant. When all the fluid possible has been evacuated, the canula may be removed, the scrotum being first pinched up around it, in order to prevent the escape of fluid into the tissues. This is done because, if the precaution is neglected, abscesses may thus be formed. Nevertheless, it is very unusual for such accidents to happen; in point of fact, one method of treatment employed, in cases of hydrocele, is to allow the fluid to drain into the scrotum, and there be absorbed. With the application of a small slip of adhesive plaster over the wound, the operation is concluded, and the patient can resume his usual occupation, without either inconvenience or danger.

There is, however, another variety of this affection, the encysted hydrocele or spermatocele, in which a cyst is developed in connection with some part of the testicle itself. A similar method of operative interference is here resorted to (the fluid withdrawn being sometimes milky white, and with spermatozoa present in it), but it must be held in mind that it is not borne so well as in the ordinary form of hydrocele, and greater care is necessary in the after-treatment, lest serious inflammatory action be set up within the cyst.

The radical treatment of which we have already spoken, and to which this present operation is preliminary, consists in the withdrawal of the contents of the sac, and the injection of some fluid, preferably the tincture of iodine, into the cyst-cavity. I say "preferably the tincture of iodine," for, although many other injections are used, and that, too, with greater or less success, I have found in my experience that, although not invariably followed by a permanent cure, iodine, of all things, can be the most relied on, when used as advocated by the late Professor Syme, of Edinburgh, that is by injecting the undiluted tincture and allowing it to remain. Another mode of treatment sometimes resorted to is the introduction of a seton, which has, however, the disadvantage that it sometimes sets up suppurative, instead of the desired adhesive inflammation.

### HOW AND WHEN TO OPEN AN ABSCESS.

The second case that comes before you to-day is one that has just presented itself, and which I will proceed to examine with you. The hand that the patient shows us is inflamed and swollen, and he tells us that for the last six weeks it has been in nearly the same condition. Observe that the whole palmar surface is hardened and indurated, and at one point the skin is dusky, and there is evidence of the presence of pus under it. We have here, in short, a palmar abscess, than which, on account of the inextensibility of the surrounding tissues, few things are more painful. I generally open an abscess of this kind with a sharp, narrow, straight bistoury, which should be introduced with a quick, plunging motion, and then withdrawn toward the operator. Making the incision in this manner, some little pus is seen to escape, and there is slight bleeding only. As to the after-treatment, I would advise the application of some simple poultice, such as has already been used by our patient, and the arm should then be put upon a splint, which, if not absolutely necessary, is at least of advantage in the keeping of the part at rest. It is not usually considered advisable to open an abscess until it becomes what is called "ripe," but we have, I think, exceptions to this rule in palmar and digital abscesses. In them the tension is so extreme, and the danger of the involvement of the neighboring parts so imminent, that both these forms of abscess should at once be opened, otherwise the tendons may become involved and slough, and the bones even being affected, an amputation may be made necessary. The later complication follows oftener the digital than the palmar abscess. It is argued by some that in opening an abscess before it is "ripe," you may open it in one place, while it may subsequently point in another. To wait until the abscess points is in some cases the best rule to adopt, as in the mammary abscess for example; but in the digital and the palmar abscess, an incision, in the majority of cases, is indicated so soon as, or sometimes even before, the presence of pus is detected.

### THE TREATMENT OF CLUB-FOOT.

This child, aged two years, has what is popularly known as club-foot. It is the most usual variety of that affection met with, and is technically called pes varus. There is also present in some degree pes equinus. The patient has been allowed to walk on the side of the foot for a sufficient length of time to cause the development of a callosity, or corn, in that situation. The best results from operative interference in cases of this kind are usually met with in those instances in which this interference has early been made. But in the present case it is even now not too late to prevent by surgical treatment subsequent changes, in which the bone structure may become involved, and a future more severe operation be made necessary. The best treatment is here unfortunately inadmissible. Where, either in private practice or the hospital ward, you can have your patient kept constantly under careful supervision, you may divide, subcutaneously, first the tendons of the anterior tibial and posterior tibial muscles, and subsequently the tendo achillis, employing gradual extension the while by means of the modified Scarpa's shoe. But if, as here, you will have to rely on parents or inefficient nurses for the carrying out of your directions, since you cannot do the best, you must do the next best thing, which is to at once divide all three tendons, straighten the limb, and fix it immovably in a plaster-of-Paris bandage. When the slight inflammation which attends such a trivial operation as tenotomy subsides, remove the bandage and apply an ordinary frame shoe. The first operation spoken of, followed by the application of the varus shoe, is by far the best, but the supervision of the case must be your own, or else the result in great probability will not be successful. The operation, as already described, consists in either case of the subcutaneous division of the tendo achillis and of the tendons of the anterior tibial and posterior tibial muscles, and sometimes, as in the case before us, of the plantar fascia. Whereas, in cutting the tendo achillis and the tendon of the anterior tibial muscle the operation consists merely in

the subcutaneous division of these tendons by means of the sharp-pointed tenotome, in the section of that of the posterior tibial muscle additional caution is necessary, for the wounding of the posterior tibial artery would be an awkward accident, and would perhaps prevent primary union, which, in an operation of this kind, is always sought for. For the avoidance of this risk it is advisable to make the preliminary puncture with a sharp-pointed knife, and in the deeper part of the operation to employ a blunt-pointed tenotome.

Observe that in withdrawing the knife after each of the incisions above described, the superficial wound is immediately closed by the finger, and there is applied as quickly as may be a small piece of lint wet with a little compound tincture of benzoin, and held in place with a strip of adhesive plaster.

These precautions are intended to prevent the entrance of air through the superficial puncture. Having, then, divided all the tissues necessary, we find that the foot, which is pretty well everted, can by force be made almost straight. The parts are now to be cleansed if there has been any bleeding, fresh pieces of dressing applied if the first used have become displaced, and the foot then fixed in a normal position by the immovable bandage. Let me repeat that I do this because, as the patient will not remain under our constant supervision, it is the best that can be done in this particular instance.

In the application of the plaster dressing I adjust first about the leg, as you see, a roller of flannel, on account of its softness and elasticity. Then a narrow plaster-bandage is carefully and evenly applied, with a view to the equal distribution of pressure over the whole leg, and the avoidance of anything like circular compression; for a certain amount of swelling follows even such a trivial operation as tenotomy. With the application of a little dry plaster to give it a finish, the dressing is completed, and the parts are seen to be immovably fixed in the position which they would normally occupy. In two or three weeks, the wounds resulting from the operation having in that time long since healed, the bandage may be removed, and the use of the shoe instituted. This shoe may be the ordinary frame shoe, with an iron on each side and a single hinge for the ankle, by which walking will be permitted, while a return of the deformity will be prevented.

CONTRACTED KNEE.

The fourth and last case that I shall have an opportunity of exhibiting to-day is that of this little girl, whose history runs as follows: As a result of some slight injury, her knee-joint began to swell, and the physician who had her in charge before she came into the hospital said, according to the child's parents, that there was a fracture. Upon a careful examination, however, I fail to detect any of the signs of such an injury. The small opening which is seen on the outer surface of the affected knee is the result of suppuration, and is kept open and prevented from healing by the constant action of the hamstring tendons. The slight swelling which is present about the knee-joint is probably due to an early stage of synovitis. The operation that I intend to perform is the cutting of both hamstring tendons, with the twofold object in view of straightening the somewhat contracted knee, and, by putting the limb at rest, of favoring the healing of the sinus. To cut the hamstring tendons, it is best to introduce the knife in the median line, with its point directed toward the edge of the limb, thus avoiding the risk of wounding the popliteal artery. It is usually advisable to cut the tendon of the most contracted side first, and to then decide on whether the section of the other will be necessary. The tenotomy wounds having been treated in the usual manner, we will place a little lint spread with zinc ointment over the sinus, and then apply a flannel roller around the leg, with a view of protecting all bony prominences. Now I apply the plaster roller far up and far down the leg, keeping the pressure equalized, and strengthening the knee and rendering it immovable by the addition of a few figure of eight turns around it. Dry plaster is then applied as before. There is but little doubt that when in the course of five or six weeks the bandage is removed, the leg will be found to be straight and the sinus completely healed.

## Progress of Medical Science.

PHARYNGEAL HERPES.—In the *Pester med.-chir. Presse*, No. 19, 1880, Dr. I. Herzog calls attention to this rather rare affection. He states that, pathologically, this form of eruption resembles ordinary cutaneous herpes. Owing to the location of the disease, however, the vesicles, after bursting, form no crust, since the products of coagulation have no chance to dry up, but are washed away with the pharyngeal secretions. This "herpes pharyngis" is said to begin with violent fever, accompanied by severe headache. Gastric derangements are also observed. The eruption as a rule appears on one side only. After subsidence of the initial constitutional symptoms, the eruption replaces the ordinary throat catarrh. This occurs on the second or third day. The faucial mucous membrane becomes considerably swollen. At first perfectly clear vesicles appear; soon, however, their contents assume a yellowish tinge. They may be present in groups, or else occur widely scattered. An irregularly serrated, dark red border surrounds them. When the eruption is widespread, the fauces appear as if covered with dewdrops. After twenty-four or thirty hours, distinct little ulcers are seen in place of the vesicles. The floor of these ulcers has an opalescent look. Relapses may occur, and then the disease may run a longer course than the usual one of eight or ten days. In rare instances, deep ulceration is observed, and such cases are apt to create erroneous impressions and lead to mistakes in diagnosis. Sometimes, in place of the vesicles, variously shaped plaques, of small size and yellowish color, may develop. They appear as loosely adherent false membranes, which suffer rapid and spontaneous desquamation. Herzog thinks that this affection should be regarded as a trigeminal herpes zoster, in consequence of irritation of the spheno-palatine ganglion.—*Jahrbuch für Kinderheilkunde*, December 23, 1880.

HISTOLOGY OF THE LUNG.—Professor Kölliker had occasion to examine the lungs of a criminal one-half hour after his execution. As the result of careful microscopical investigation, he states that the human alveolar epithelium consists of a continuous layer of basement-cells of two different kinds: 1st, small nucleated, flat, polygonal bodies, with protoplasm confined exclusively to the meshes between the capillaries; and 2d, large multiform, very thin plates

without nuclei, which lie immediately upon the blood-vessels. The same was found by Elenz and Eberth in the lungs of mammalia in 1864. The bronchioles, from 0.5–0.4 mm. in diameter downward, are of two kinds: tubes, lined with ciliated epithelium; and bronchioles, lined either with cylindrical or small basement-epithelium, or large, polygonal basement-cells. Both carry alveoli, which have the same epithelium as those of the infundibula, which Kölliker calls respiratory epithelium. Where the ciliated epithelium has been transformed into a small basement-epithelium, and this again into respiratory epithelium, we have a structure known as the alveolar passage (*Alveolengaenge*), several of which unite to form the bronchioles. This, and the relation of the pulmonary artery to the mucous membrane of the smallest bronchi, demonstrates that those portions of the lung which play the most important rôle in endosmosis and exosmosis must be looked for much nearer the bronchi than has been hitherto supposed. —*Schmidt's Jahrbücher*, January 27, 1881.

The Physiological Action of Alcohol.—Experiments made by Dr. Riess with absolute alcohol, diluted to forty per cent., show a considerable decrease of the most important constituents of the urine, and an increase of the weight of the body amounting to eight hundred and eighty grammes. The temperature and pulse remained normal. Considering that the change of diet to one richer in nitrogen ought to have produced an increase in the amount of nitrogen excreted, and that diuresis was increased, and, consequently, a tendency to a more abundant excretion of urea, the result obtained demonstrates anew that alcohol is to be regarded as a food, and that its favorable influence upon the condition of the organism is attributable not alone to its stimulating, but also to its "nourishing" properties.—*Schmidt's Jahrbücher*, January 27, 1881.

Is the Uterine Mucous Membrane Desquamated during Menstruation?—At a meeting of the Société de Biologie, M. de Sinéty reported having had opportunity to make a number of autopsies on women who died during menstruation, and that he found the uterine mucous membrane intact. To further prove his assertion, he examined, with great care, in a very large number of cases, the fluids expelled during menstruation, but was not able to detect the slightest trace of corpuscular elements of the mucous membrane. He therefore concludes that desquamation of the uterine mucous membrane, a process assumed by many to be a physiological one, does not occur during menstruation.—*Gazette des Hôpitaux*, March 8, 1881.

Local Anæsthesia of the Larynx.—Professor Schrötter, of Vienna, practises local anæsthesia of the larynx by the following method. On the evening preceding the day fixed for the operation, the interior of the larynx is thoroughly painted over with chloroform twelve times in succession, in order to produce hyperæmia of the mucous membrane, which favors absorption of the narcotic to be subsequently used. The latter is applied with a brush an hour later, in the shape of a concentrated solution of sulphate of morphine. This is also used twelve successive times, the patient being instructed to gargle immediately afterward with a solution of tannin. During the night the patient must be kept under observation, in order that signs of morphine-poisoning which might arise, may be promptly treated. As a rule, the larynx will be found in the morning to be completely anæsthetized so that the operation can immediately be performed. If there is still some susceptibility remaining, this can be easily and safely removed by repeating the painting with morphia, which need occupy but a few minutes. The author acknowledges that his method is in a degree disagreeable to the patient, especially the application of the chloroform. But it is nevertheless infinitely preferable to tracheotomy, which would otherwise be necessary. It is, however, rarely resorted to, since there are few larynges which will not yield their susceptibility to the repeated use of the sound.—*Allgem. Wiener medizin. Zeitung*, March, 15, 1881.

Fatty Embolism.—Dr. Lepp, of Leyden, contends that the presence of fat-emboli in living warm-blooded animals has not been proven. Embolism can only occur when the blood-pressure is not powerful enough to overcome the resistance which the fat-globule encounters in the capillaries. This resistance is undoubtedly due to the cohesive power of the fat, which diminishes rapidly at a high temperature. Therefore, we cannot apply the fact that fat-emboli have been found in living cold-blooded animals to warm-blooded ones, whose blood-pressure is much greater and whose temperature is higher, both conditions being very unfavorable to the existence of fat-globules. Their intravascular discovery post-mortem is no proof of their presence in the vessels during life, since it is very likely that it is only during the death-struggle that the blood-pressure becomes so much diminished as to allow the entrance of fat-globules into the vessels.—*Centralbl. für Chir.*, March 5, 1881.

Therapeutic Use of the Bromhydrate of Conia.—The following are the principal points extracted from an extended study on the medicinal action of hemlock by Dr. Tuloup (*Bulletin de Thérapeutique*). The organs of special sense, the digestive functions, and the temperature are but slightly affected by conia. Death ensues in consequence of asphyxia. Bromhydrate of conia gives rise to the same signs of intoxication as the ordinary alkaloid. It appears to possess, however, a greater energy of action. Respiration is the function which is chiefly influenced by it. At first accelerated breathing is produced, but this soon makes place for a decided retardation, and asphyxia may be finally developed, owing to this slowing. The cause of the asphyxia is not to be looked for in a paralysis of the terminal branches of the pneumogastrics, but rather in a direct action on the respiratory centre. Several distinct phases, each with characteristic symptoms, are observable in connection with poisoning by the bromhydrate.

The drug may be administered under any form. In order to produce an appreciable effect on an adult, one grain and a half may be exhibited in two doses during the twenty-four hours. The idiosyncrasy of the patient will then have to be our guide as to the amount of necessary increase in the dose. Four grains and a half a day should not be exceeded. It may be employed with advantage in all spasmodic affections, but particularly those of the respiratory organs. Pertussis, asthma, various forms of dyspnœa, emphysema, laryngitis stridulus, spasm of the glottis, and spasmodic dysphagia are symptoms or diseases in which it should be given. But epilepsy, tetanus, eclampsia, hysteria, infantile convulsions are equally amenable to treatment by this means. Neuralgia, especially when associated with spasms, is likewise controlled by the bromhydrate of conia.—*Moniteur de la Policlinique*, March 13, 1881.

# THE MEDICAL RECORD:

## A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., Editor.

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## THE COMING INTERNATIONAL MEDICAL CONGRESS.

THE meeting of the International Medical Congress, to be held in London from August 2d to August 9th, promises to be of more than ordinary interest. Arrangements have been made by the committee in charge, not only to insure a successful working of the usually extensive and varied programme on such occasions, but efforts have been made to give the meeting more of an international character than has been the case heretofore. Special pains have been taken to secure the attendance of representative medical men from all parts of the world, and the subjects to be discussed have been selected with a view of bringing out the best available talent. A large number of foreigners have already signified their intention to be present, and the prospect now is that the membership will greatly exceed that of any former meeting. The amount of material to be discussed is immense, and at first sight would appear to be more than can be satisfactorily disposed of during the few days of the session. Still, the system of arrangement is carried out with such precision, that there is a reasonable hope that the ground mapped out will be duly and efficiently worked over.

In the present congress the English, French, and German languages are to be spoken. Heretofore, but one, or, at most, two languages were declared official. In making this laudable departure from what has been an accepted rule, our English cousins have undoubtedly expanded the resources of the congress, and have given it a truly international character. Each member can present his paper in his own language, while in the volume of Transactions an abstract of his remarks will be published in the three official languages. It is to be regretted that the same course cannot be taken with the discussions. The latter, as we understand, are to be printed in English only. While such a plan necessarily avoids a confusion of tongues in open meeting, it has its drawbacks in that many of the members, although able to understand the papers in a foreign language, will not be able to discuss them in any but their own tongue. The majority of the English members will have the advantage in this respect, in that they will be able to understand German and French authors, and, of course, use their own language in the discussions. But this difficulty may be more apparent than real. It would seem practicable while the discussions are only to be published in English, that each foreigner making remarks might be allowed to use his own language. But we have no doubt that suitable arrangements will be made to meet the needs of all concerned.

The main work will be done in the sixteen sections. These will meet in the morning from 10 A.M. to 1 P.M., while the general sessions, at which the formal addresses are to be delivered, will be held daily from 4 to 5.30 P.M. According to previous custom, the abstracts of the papers to be read before the different sections will be published before the meeting, giving ample opportunities for preparation on the part of such as desire to take part in the discussions. This plan will not only save the time of the meetings, but will be calculated to bring out the best thoughts of the participants. Each section has a series of eight or ten subjects for discussion, and their arrangement is as systematic as could be desired. Among the topics are—In Anatomy and Physiology: Improved Methods of Instruction in Anatomy, The Functions of the Cortex Cerebri, The Intimate Structure of Cells and Nuclei. In Pathology: The Relations of Minute Organisms to Disease, Tubercle, and the Origin of Cancer and Sarcoma. In Medicine: The Localization of Disease in the Brain and Spinal Cord, and Forms of Renal Disease, with a subsection on Laryngology. In Surgery: Recent Advances in the Surgical Treatment of Intra-peritoneal Tumors, Recent Advances in the Method of Extracting Stone from the Bladder of the Male, Union by First Intention, The Treatment of Aneurism by Esmarch's Bandage, and Syphilis. In Obstetrics: Antiseptics in Midwifery, the discussion being opened by Professor Spiegelberg; Total Extirpation of the Uterus, by Professor Freund; Oöphorectomy, by Dr. Battey. In Diseases of Children: Syphilis as a Cause of Rickets, Spinal Paralysis, Diphtheria, and Chorea in its Relations to Rheumatism. In Mental Diseases there is an elaborate programme, embracing Anatomical, Physiological, Pathological, and Chemical Aspects of these diseases.

A museum for the exhibition of objects of special interest in pathology, clinical medicine, and clinical surgery, will be one of the distinctive features of the meeting. The exhibition is promised of groups of patients with the following rare diseases: Addison's Disease, Coincidence of Gout and Rheumatic Ar-

thritis, Charcot's Joint Disease, Myxœdema, Syphilitic Bone Disease in Children, Mollities Ossium, Primary Muscular Atrophy, Rupture of Large Nerve-trunks, Morphœa, Keloid of Alibert, True Leprosy, Lupus Erythematosus, and Xanthelasma.

Another feature of the museum will be the classified collection of drawings, also a collection of vesical calculi of unusual character, and especially of such as have been removed by unusual or new methods, and of biliary calculi of large size, which have discharged, or have been removed by operation.

The social elements of the meeting are so managed, and are few enough in number, not to interfere with the strictly scientific business. There will be a soirée at the College of Surgeons and one at the South Kensington Museum. The committee also propose an out-door fête at the Botanical Gardens. Tickets of membership—one guinea each—procure admission to these entertainments; but all expenses for luncheon and incidental expenses are met by individual members.

Notwithstanding, by the disposal of tickets and the collection of subscriptions, nearly thirty-five thousand dollars have been raised for the expenses of the Congress, it is claimed by the managers that a still larger sum is needed to defray the necessary expenses. It is concluded that the cost of publication of the "Transactions" alone will vary from twenty-five to thirty thousand dollars, according as there may be one or two volumes of the same. This is such an extravagant estimate, that there is reason to suppose there must be some error in the statement.

Every facility is offered for the registration of members. The formalities of registration are reduced to the minimum of ordinary medical qualification and the payment of the membership fee. The latter is curiously enough exacted of all members, whether they have subscribed or not.

As we have already stated, the promises for a large and profitable meeting are good. The representatives from this country will be, as to quantity and quality of membership, much better than is usual on such occasions, and it is fair to hope that the work which they will perform will reflect credit on American medicine. But the true character of this and other work in the Congress can be duly estimated when the full report of the Congress is made.

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### THE PRESIDENT'S WOUND.

NATURALLY there has been a great deal of discussion in the newspapers and elsewhere concerning the probable course of the bullet in the case of President Garfield. Despite the extensive interviewing of surgeons by reporters, no conclusion has yet been arrived at. The case presents some unusual difficulties in diagnosis, which should be taken into account by such medical men as have so freely ventilated their opinions before the public. It is a matter for great congratulation that the weight of evidence at present is in favor of the escape from injury of the liver, as well as other vital organs in the neighborhood. In other words, every one is satisfied to learn that the original opinion regarding the nature of the wound is likely to be a mistaken one. Nothing better than this could possibly happen under the circumstances. But it is not just to the gentlemen who have been in attendance upon the President, and who made the diagnosis of a mortal wound, to hold them to account for the error which, in all probability, they committed. It is easy enough for any surgeon of ordinary intelligence to assume in the light of recent events that no vital parts have been struck, and still more so is it for gentlemen who know nothing of the case, except from hearsay, to declare how easy a proper diagnosis might have been made. On general principles it is always safe and proper to give due preference to the opinions of the surgeons in actual attendance upon the case, and to exercise toward them a becoming charity for mistakes supposed to have been committed. There are always circumstances to be taken into account of which the mere outside theorizer has no possible knowledge. Hence, his opinions are usually gratuitous, and his advice generally worthless.

The original idea of the wound, as entertained by the gentlemen who first saw this notable case, was a natural and reasonable one under the circumstances. A great deal regarding the actual course of the missile had to be left to inference. If thorough and repeated probing was the only thing necessary to clear up the doubts of the critics, we are glad to be still in doubt. In reality, too much credit cannot be given to the gentlemen in attendance, for their forbearance in this matter of probing. They followed a strict surgical rule in this respect, and wisely rested their opinion upon conjecture rather than upon demonstrated fact.

So far as we can learn, there were but two examinations made of the wound to determine the course of the ball: one by Dr. D. W. Bliss, who cautiously introduced a probe for a distance of three inches into the wound, in a direction from behind forward and slightly downward, and Surgeon-General Wales, of the navy, who followed the same track with his little finger to the entire length of the latter. Both gentlemen were of the opinion, from such examinations, that the liver had been wounded, and Surgeon Wales believed he felt the track in the organ itself. This should be admitted as very direct testimony. It was all that was necessary to obtain under the circumstances. To have gone farther might have given an altogether different termination to the case. The sin, if any, was one of omission, and is always pardonable when any of the large cavities of the body are supposed to be entered by a ball. In the light

of subsequent developments it is quite probable that the missile has been deflected from the course it was originally supposed to have taken; but it does not appear, from anything that has been said by the army of interviewed medical men, that the precise direction of the missile could have been determined with any more certainty or by any other means, without placing the life of the patient in jeopardy. Under other circumstances the surgeons in charge would have been very justly condemned for their officiousness. As it is, the country have the best of reasons for applauding their forbearance.

It does not appear, from anything that has been learned of the history of the case, that any of the symptoms could have been ameliorated by the finding of the ball or its extraction. Certainly the patient could not have done better. The general management of the case, even under the grave suspicions of liver injury, could not have been more judicious, or the general treatment more skilful. The error, if such we may call it, has been on the safe side from the beginning to the present.

The ball itself, although of large size, was not of a character to cause any extraordinary amount of irritation—at least, not so much so as the portions of clothing which may possibly have accompanied it.

But these are, of course, matters the importance of which can be estimated only in the light of coming events. It is sufficient for us to know at present that the wound discharges freely, and that every symptom in the case is favorable. There is perhaps nothing better to wish for in the light of the present progress of the case, than that the President's condition will soon warrant even the discontinuance of the morphine. But this matter can of course be safely left to the judgment of his medical advisers.

The precise direction of the ball is a matter for much interesting study. The data are not numerous, and are mostly of a negative character. All that can be done at present is to make the most of them and interpret their significance as best we may.

Of course no one can say as yet where the missile really is, and unless more pronounced symptoms are developed there is a probability that no one ever will. At least, let us hope that the ball, wherever it may be, will quietly become encysted, and that the illustrious patient may finally make what now promises to be a satisfactory recovery.

In the present number an attempt has been made by Professor Weisse to explain a possible course of the bullet—deflected downward from the eleventh rib, wounding the ilio-hypogastric and ilio-inguinal nerves, and finally impinging upon the sacral plexus. The theory is an ingenious and plausible one, and helps to elucidate some of the problems in the case. At all events it is an interesting study of the surgical anatomy of that region.

### AN AMERICAN RED CROSS SOCIETY.

THERE is a likelihood that the league of the Red Cross will ere long have a branch organization in this country. Through the efforts of Miss Barton, an American lady, whose services during the late war of the rebellion are well known and duly appreciated, the matter has been brought to the attention of Secretary Blaine, and will, at the proper time, be presented to Congress for suitable action. Since the Geneva Conference, held in 1863, the Society of the Red Cross has extended its auxiliaries into every country of Europe, and has indicated its utility in every war that has occurred during that period. It was originally organized for the purpose of establishing soldiers' relief societies in various countries, under a common badge, for protecting, in time of war, hospitals, ambulances, hospital stores, and supplies for the wounded, and for maintaining a strict neutrality on the part of belligerent powers toward all members of the society while in service. This treaty, subsequently amended, has been endorsed by twenty-seven governments, and is consequently of a thoroughly international character. Indeed, the purposes and designs of this organization are past the necessity for advocacy on the part of any humanitarian, and are beyond the chances of question as regards its extended utility and beneficent results. If there had been any doubts on this score, they were especially dispelled by the labors of the Red Cross Society during the Franco-Prussian war of 1870–71. As soon as the war was declared the Berlin Red Cross organization, numbering nearly two thousand members, offered its services, and distributed squads all along the frontier. Every facility was offered for transportation, free communication of supplies was established, and prompt and efficient aid made available at all times. The operations were carried on with the most perfect system, and on a sufficiently extensive scale to insure a most satisfactory working of details and a corresponding benefit to the sick and wounded.

It is fair to suppose that there never has been nor never will be any objection to the establishment of a Red Cross Society in this country. The only probable reason why no direct action in its establishment has been undertaken heretofore in this country is, that the real necessity for the same in possible and frequent wars has not been apparent. But Miss Barton, with a view of adapting the purposes of the organization to the real need of the nation, has proposed that, in addition to the care of the sick and wounded on the battle-field, its benefits shall be extended toward such as suffer from pestilence, famine, or other wide-spread calamities. Concerning this point, Miss Barton, in her memorial, makes the following practical suggestions:

"It may be further a part of the work of these societies in America to afford ready succor and as-

sistance to sufferers in time of national or widespread calamities, such as plagues, cholera, yellow fever, and the like, devastating fires and floods. The readiness of societies like those of the Red Cross, to extend help at the instant of need, renders the aid far more valuable and efficient than that gathered together hastily and irresponsibly in the bewilderment and shock which always accompany such calamities. The trained nurses and attendants subject to the relief societies in such cases would accompany the supplies sent and remain in action as long as needed. Organized in every State, the relief societies of the Red Cross would be ready with money, nurses and supplies to go on call to the immediate relief of all who were overwhelmed by any sudden calamity. It is true that the Government is always ready in these times of public need to furnish transportation, and often much more. During the late yellow fever epidemic in the South, and more recently at the time of the floods in Dakota, it ordered rations, clothing and tents to be distributed under the direction of army officers. But in such cases one of the greatest difficulties is that there is no organized method of administering the relief which the Government or benevolent citizens are willing to bestow, or trained and acclimated nurses ready to give intelligent care to the sick; or, if there is organization it is hastily formed in the time of need, and is therefore comparatively inefficient and wasteful. Although the people of the United States may hope to be seldom visited by the calamities of war, yet the misfortune of other nations constantly appeal to their sympathies. And in this country the South is periodically visited by the scourge of yellow fever; the valleys of the Mississippi are subject to destructive inundations; the plains of the West are devastated by drought and insects; and cities and country are swept by consuming fires. In all such cases to gather and dispense the profuse liberality of the people, without waste of time or material, requires the wisdom that comes of experience and permanent organization. To secure such permanent organization the American Association of the Red Cross has been founded."

It is gratifying to learn that proper initiatory steps have already been taken to organize the American Red Cross Society; a constitution has been adopted, officers have been elected, articles of incorporation are being prepared, and other matters are receiving attention with the view of having everything in readiness for the formal and necessary national recognization. There is no reasonable doubt that the latter will be done as soon as opportunities may be offered for legislative action, and when such is accomplished we shall doubtless have a systematized relief association which shall even be more helpful to the sick and suffering during times of peace than similar organizations have ever been to the wounded and dying on the battle field.

### DAILY MEDICAL JOURNALS.

Since the Medical Record, in June, 1880, published the first daily edition of a medical journal, its example has been followed by several of its contemporaries. Our esteemed neighbor, the *Boston Medical and Surgical Journal*, shortly after issued a daily edition containing the proceedings of the Massachusetts State Medical Society; the *Medical Annals*, of Albany, with becoming enterprise, published daily the reports of the meetings of the Medical Society of the State of New York; the *Chicago Medical Gazette* did the same thing for the Illinois State Society, while the *Virginia Medical Monthly* reported in special editions the proceedings of the American Medical Association at Richmond; lastly, the *New York Medical Times* (formerly the *Homœopathic Medical Times*) issued a daily edition during the late meeting of the American Institute of Homœopathy at Coney Island. Verily, daily medical journalism is gradually getting into the fashion, at least on the occasions of notable medical gatherings.

The coming meeting of the International Medical Congress will afford an opportunity for becoming enterprise on the part of our leading English contemporaries.

## Reports of Societies.

## NEW YORK PATHOLOGICAL SOCIETY.

*Stated Meeting, April 27th, 1881.*

Dr. T. E. Satterthwaite, President, in the Chair.

### CEREBRO-SPINAL MENINGITIS.

Dr. F. A. Burrall, on invitation, presented specimens illustrating the lesions of cerebro-spinal meningitis, accompanied with the following history, furnished by Dr. John F. Duffield, Acting House Physician at Presbyterian Hospital:

Susan McArthur, aged nine years, a native of New York, was admitted to the service of Dr. F. A. Burrall, April 13, 1881.

She was brought in an ambulance and was in a semi-comatose condition. She had been living in a miserable tenement-house. Anything like a direct rational history of the child's condition previous to admission could not be obtained. Her hygienic surroundings had been extremely sad in every particular, especially as regards drainage, ventilation, and overcrowding. Her father and mother were intemperate. The child seemed to have been in her usual health up to the time she was taken sick. No other cases of sickness were in the house at the time, although it was subsequently discovered that a child in the same house was taken ill at about the same time, and died four days later, with similar symptoms.

So far as could be ascertained, on the afternoon of April 10th, the child had frontal headache and began to complain of abdominal cramps, which were soon followed by diarrhœa, and what was evidently projectile vomiting. No reliable history of a chill, but

there was almost immediately a rise of temperature. She did not complain particularly of headache, but of a general feeling of soreness. Vomiting and diarrhœa continued at intervals for twenty-four to thirty-six hours, when they ceased. Within a few hours she began to grow dull, and gradually lapsed into a semi-comatose condition.

On admission, the patient was poorly nourished and stunted in growth, and almost completely comatose. With some difficulty she could be aroused enough to protrude her tongue. Anxious expression, cheeks flushed—the left apparently more so than the right. Ptosis of both eyelids; conjunctivæ deeply congested; pupils dilated equal, and responded slowly to light; no appreciable photophobia. Dry, brown tongue, and sordes on the teeth. Well marked opisthotonos. Whole body in a state of flexion. All attempts at bending forward the head are evidently painful, but there are no other tender points, even on rather forcible manipulation. No general hyperæsthesia. Child lies perfectly quiet, with body in above condition, except at stated intervals of from five to fifteen minutes, she begins a series of jactitations (not convulsions): raising the right hand to the head as if in pain, scratching her nose, boring her head into the pillow, and at times tossing herself around until she has made a complete circuit of the bed. She also gives at these times a sharp, moaning cry, which is the only sound she utters. These attacks last from a few seconds to a minute. Passes urine and fæces freely. Physical examination of heart and lungs negative. Temperature, 102½° F.; pulse, 115; no eruption; no vomiting.

*Examination of urine.*—Specific gravity, 1028; acid; one-fourth albumen per volume; no casts; loaded with urates.

*Treatment.*—Sinapisms to nape of neck, after mustard-bath; ℥ iv. Magendie hypodermically, with effect of somewhat shortening the duration of the paroxysms and diminishing their intensity.

April 14th.—Pulse, 74, regular and moderately full; temperature, 101½°. Opisthotonos more marked. Pupils now slightly contracted, equal, and still respond feebly to light. Cannot be aroused, though takes nourishment freely by mouth. No eruption. No general hyperæsthesia. The jactitations continue at about the same intervals and with same intensity. Ordered hot mustard-bath t. i. d., with continuous strong sinapisms to nape of neck, which seemed to quiet the patient somewhat. Hydrarg. chlorid. mite, gr. ⅛, every hour until free fecal movement. Four doses sufficient. Iodid. potass. in five-grain doses every two hours; brom. potass., gr. x., every hour; ʒ j. was given, with slight, if any effect. Milk with brandy, in proportion of half an ounce to four ounces, ad lib. 8 P.M.—Pulse, 132, considerably weaker, but regular; temperature, 102½° F.; respiration shallow, but regular, averaging 28. General condition unchanged. Tongue very dirty, but moist; sordes increasing. Face deeply flushed, and countenance getting dusky. No lung-complications. McMunn's elixir opii, ʒ ss. in divided doses, quieted her somewhat during the night.

April 15th, A.M.—Pulse, 90, non-intermittent; temperature, 101¾° F. Opisthotonos increased. Head bent sharply back to an extreme degree, while the vertebral column is bowed considerably. Left side paralyzed. Internal strabismus, left side; pupils dilated, fixed, and non-responsive to light; conjunctivæ excessively congested. Well-marked abundant petechial eruption on shoulders, arms, thighs, knees, buttocks, and trunk. Dysphagia. Hot baths continued. Bromid. and McMunn given freely during the day, with brandy doubled. Paroxysms now became more violent, and toward evening began to be more convulsive in character.

6 P.M.—Pulse, 168 approximately; very weak, intermittent, and fluttering. Opisthotonos extreme; still no general or local hyperæsthesia. Face very dusky; beginning œdema of lungs. Respirations still regular, number 32; temperature, 105° F.

9 P.M.—Pulse not perceptible. Temperature, 106¼° F. Died after a well-marked convulsion.

*Autopsy*, made seventeen and one-half hours after death.—Body fairly nourished. Rigor mortis quite well marked. Posterior and also lateral surfaces of body marked with livid spots of various sizes; also anterior surfaces of both arms and upper part of both forearms and knees exhibited little clusters of punctate spots, each spot of the size of the head of a small pin. Some spots were seen over the free border of the ribs on the right side. The peritoneum, and all the serous membranes exposed, presented a very deep, almost violet color. The pericardium contained a drachm of clear serum; membrane normal. The heart weighed three ounces and one-half; valves normal, right ventricle of auricle contained white clots; left ventricle contained fluid blood. The left pleural cavity contained some old adhesions at the base of the lung. The left lung weighed four and one-half ounces; hypostatic congestion of the lower lobe; crepitated throughout; diaphragmatic pleurisy. The right lung weighed five and one half ounces, crepitated throughout. The spleen weighed two and one-half ounces. The liver weighod thirty ounces, was congested, and softer than normal. The right kidney weighed two ounces, the left two and one-half ounces, rather soft; cortex looked fatty, no irregularity in markings. The brain weighed two pounds and fourteen ounces; intensely congested, and in meshes of pia mater were collections of purulent material. The blood-vessels, after opening the dura mater of the cord, were found distended with blood, and in the meshes of the pia collections of pus were found.

Dr. Ripley remarked that the scarcity of the exudation and the gravity of the symptoms seemed to be the peculiarity of the case.

Dr. Heineman remarked that cases with marked symptoms occurred, in which at autopsy little or no lesion was found, except congestion of the pia mater. The lesions of cerebro-spinal meningitis are simple congestion, congestion with a little patch or patches of exudation, or, less frequently, a great deal of exudation. To find a large quantity of exudation is rather the exception than the rule; although in some epidemics the cases are characterized by an abundance of inflammatory products, while in other epidemics the lesions are less marked.

The President remarked that in Dr. Burrall's specimen the plastic exudation was limited, while the congestion of the pia mater was very extensive.

Dr. Ripley thought that exudation was almost always present, and that, as a rule, it was considerably abundant. Rodenstein had made autopsies, and found scarcely any lesion, but believed that coagulated material was always present.

Dr. Heineman remarked that there was one exception to Dr. Ripley's statement—namely, that patients might live four or five days with well-marked cerebro-spinal meningitis, and at autopsy only congestion of the meningitis be found.

Dr. Ripley remarked, as a clinical fact, that there is no disease in which the symptoms are so irregular

as in cerebro-spinal meningitis. There are sudden and excessive variations in temperature, and so with the nervous symptoms, the condition of the pupil, etc.

SPECIMENS ILLUSTRATING THE TRAUMATIC ORIGIN OF CANCER.

DR. A. P. GERSTER presented a specimen of cancer of the leg, in which the traumatic origin of the lesion was well established. A woman, aged sixty years, received on the outer margin of the sole of the foot a simple erosion of the skin from stepping on a nail, and the injury terminated in an ulcer, which repeated itself several times, and finally a small elevated ulcer formed that continued to enlarge slowly for thirteen years. It gave her some trouble in walking, but she did not deem it necessary to consult a physician. Whenever she gave herself rest for ten or twelve days, the entire ulcer, about three inches square, became covered with a newly formed epidermis and the discharge ceased; but, as soon as she began to use the foot, the previous symptoms all returned. At first Dr. Gerster did not suspect its serious character, and supposed he had to deal with a granuloma caused by the constant irritation produced by walking. In August, 1877, it was excised, the wound healed by secondary intention, and remained closed for about six weeks. Four months afterward the foot presented a very formidable appearance. Its surface was covered with irregular-shaped tumors, some of them of the normal color of the skin, and others had a dark tint pointing to the melanotic character of the disease, and a number of lymphatic glands in Scarpa's space were enlarged. Dr. Gerster proposed amputation, which he did in May, 1878. After the operation the patient said that for three or four weeks she had had double vision. During the time occupied by the stump in healing, the diplopia increased, exophthalmos took place on the left side, and at the same time small tumors appeared in the skin of the entire body; some of them were large enough to be visible to the naked eye and others were only large enough to be felt as the hand passed over the surface. The pain in the eye became so excruciating that the patient committed suicide with morphine. The nodules had been examined microscopically, and were found to be cancer containing only a very few connective-tissue elements. Besides the integuments, almost every internal organ was involved. Dr Gerster was positive that, when the tumor was first excised, in 1877, none of the internal organs were involved; but at the autopsy deposits were found in the brain, heart, pericardium, anterior surface of the peritoneum, in the liver, kidneys, and lungs.

The second specimen was a foot which he had removed from a man fifty-one years old, who from his childhood had had a small wart over the tip of the outer malleolus. When he was twenty-one years old the wart gave him a great deal of trouble, and a surgeon removed it with the actual cautery. The man said that it was not removed completely, but it gave him no serious trouble until about six months ago, when it began to bleed profusely on the slightest irritation, and enormous deposits of epithelial matter formed upon the top of the tumor. A small portion was removed and examined microscopically, and was found to be epithelial cancer. Amputation was performed ten days ago.

A third case of a similar character occurred in his practice about three years ago. A man, fifty years old, a baker, received, thirty years ago, a severe burn, extending over a large portion of the right lower extremity, on its frontal aspect. An extensive cicatrix remained, which did not give him any trouble until eleven months ago, when he hit his shin against a barrel. A small abrasion remained which did not heal, but began to enlarge, secrete profusely, and finally presented all the external appearances of an epithelial cancer. Amputation was performed, and examination of the growth proved it to be a cancer of the epithelial variety.

In the first and second cases the bones were not involved, but in the third the cancer penetrated the tibia and destroyed almost the entire depth of the bone; so much so that one time, when the man jumped off a wagon, he heard a crackling sound and felt that something yielded. Fracture did not occur, but infraction of the bone did take place.

In answer to a question, Dr. Gerster said that the exophthalmos in his first case was due to a cancerous tumor in the posterior part of the orbit, and there was no evidence of communication with the cranial cavity, although there were metastatic deposits in the brain. The optic nerve, however, was not examined.

DR. JOHN H. RIPLEY presented a specimen of

EPITHELIOMA OF THE LIP—SPONTANEOUS HEALING OF THE ORIGINAL LESION,

with the following history:

In June last he saw, with Dr. Burton, G——, an Irishman, sixty-seven years old, supposed to have epithelioma of the lip. He found the patient, a tall, thin, feeble old man, suffering from a lozenge shaped superficial ulcer, about an inch long in its longest diameter, situated in the vermilion border of the lower lip, near the centre. The edges of the sore were indurated, and the secretion from it thin and watery. The sublingual glands were apparently enlarged.

The patient stated that about three years before he first noticed a slight fissure of the lip, which troubled him a great deal, with a burning pain, and which did not heal, but remained in about the same condition for a year. It then gradually enlarged, until it resulted in the ulcer which he saw. From the locality of the sore, its long duration and peculiar history, the submental infiltration, and the age of the patient, Dr. Ripley supposed it was epithelial cancer. There was no history of cancer in the family, and no evidence of syphilis in the patient. Considering his general condition and the fact that one lung was very much crippled by chronic pleurisy, and that both were the seat of chronic vesicular emphysema, he did not think an operation advisable.

In September he saw the case a second time, and found that the infiltration below the jaw had increased very much, and now extended around both sides so as apparently to involve both submaxillary glands. The ulcer remained about the same. In January, 1881, he saw the case a third time. The ulcer on the lip was entirely healed, and had been since Christmas, but the secondary deposits had increased, and spots of softening were felt in the right sublingual and left submaxillary regions. In February rupture occurred at both these points, with the subsequent escape of thin, offensive, purulent matter.

During this present month he had seen the case several times. The ulcer still remains healed, a linear cicatrix with puckering of the adjacent parts only marking the site of the original lesion. In-

filtration of the parts below, however, is progressing, and the destruction of tissue has continued. In the right sublingual region a deep, crater-like ulcer exists, the size of a copper penny. In the left submaxillary region there is a tumor as large as a pullet's egg, having several small sinuses leading into its interior, and besides these openings there are two large, angry ulcers at its summit. The treatment of the case, until within a couple of weeks, has been of the most simple and primitive kind. Locally the patient was in the habit of keeping a small piece of dampened white paper over the ulcer of the lip. Constitutionally, a cough mixture was being taken. No other treatment. The specimens, clipped from the ragged edges and interior of the ulcers, were examined microscopically by himself, and believed to show the characteristics of epithelioma. They were subsequently examined by Drs. Janeway, Satterthwaite, and Hegeman, with the same result.

Dr. Ripley remarked that he presented the case as the second in which he had known a primary cancerous ulcer to heal. The first was reported by Dr. Beverley Robinson, and was a case of epithelioma of the larynx. A case had been reported in Holmes' system of surgery, but Dr. Ripley thought the diagnosis was doubtful.

Dr. Gerster asked Dr. Ripley if he was sure that the ulcer was completely healed, and that the cicatrix would not show a cancroidal condition.

Dr. Ripley answered that it was to all appearances thoroughly healed and the lip was supple.

Dr. Howe remarked that the fact that a wound heals by first intention shows that there is no cancerous tissue at the point where the union has taken place.

The President thought that that point had been decided otherwise.

Dr. Briddon had seen the process of repair and the process of cancerous destruction going on in the same ulcer at the same time.

Dr. Howe remarked that the process of repair did not go on in the midst of cancerous tissue.

Dr. Briddon remarked that, in amputation of the breast for cancer, it was rare that the surgeon went completely outside of the cancerous infiltration, and yet the process of repair went on perfectly.

Dr. Howe said perfect union was strong proof that there was no cancerous material in the edges of the wound.

Dr. Briddon said that he had seen carcinomatous tumors slough and cicatrize, the scars remaining apparently sound for varying periods of time, but, in all the cases he had observed, the disease returned; in one case the process of necrosis occurred twice in the same place.

With reference to the question under discussion, he had seen the process of destruction and repair going on side by side, at the same time, in epitheliomatous patches, but he did not remember to have seen a case of complete repair, save where the parts had sloughed after the application of some destructive agent.

Dr. Gerster had seen cases in which the ulcer had healed and remained so for months, and he thought it was a fact that had been stated by surgeons that the same thing had occurred in cancer of the breast. With reference to Dr. Howe's statement that cancerous tissue is unable to form a cicatrix, he remarked that such tissue did not consist of cells alone, but of connective-tissue elements, and where the latter existed in abundance there was a great tendency to the formation of a cicatrix.

The President asked Dr. Beverley Robinson whether the case of epithelioma of the larynx which he had reported remained cured.

Dr. Robinson replied that the patient had died. The ulcer in the larynx, however, remained healed.

Dr. Ripley could account for the healing by the fact that cancerous deposit had occurred in another part of the body.

Dr. A. R. Robinson thought that Dr. Ripley's case could be explained in a simple manner, namely, that it was a case of epithelioma in a mild form, which gave rise to secondary deposit, and at the same time the primary ulcer healed. Certainly such cases were not difficult to cure, and he thought that it was not unusual for death to occur in consequence of secondary deposits after the primary lesion had healed. The case received treatment, and he would regard it in the same light as though excision had been performed. Epithelioma of the face and lip can be cured.

Dr. Ripley said that in the case he had reported there was practically no treatment. Moreover, he thought that epithelioma of the lip and face had not been cured so that the patient was not liable to its return.

The President added his testimony with reference to cure in many of these cases of cancer if the connective tissue is greatly in excess of the cellular elements—the former squeezing the latter to death, and destroying the ulcer in that way. Sometimes the connective tissue was made to preponderate by the use of the cautery or caustic paste. He had known of cases being cured—that is, the primary lesion healed by the use of poultices of various herbs, and nothing but a smooth surface remained. That the disease returned ultimately he believed was true.

Dr. A. R. Robinson had seen several cases in which complete cures, so far as known, had been effected by local treatment. Anything which would produce an acute inflammatory process might give rise to connective-tissue proliferation, which would swamp the cellular elements and be followed by cicatrization.

Dr. Delavan, on behalf of Dr. Clinton Wagner, presented a

DERMOID TUMOR OF THE PHARYNX.

Patient aged twenty, Irish, single, domestic. Previous history good. No heredity. Stated that two weeks before operation she first noticed something wrong with the throat, and the trouble had grown rapidly worse. On examination, patient is a well-developed, healthy girl, with no signs whatever of any diathesis; mouth, tongue, soft palate (anteriorly), tonsils and pharynx normal, with the exception of a slight amount of pharyngeal catarrh, and the following extraordinary appearance. Upon the left side of the pharynx is a foreign body, which hangs downward from behind the velum a distance of seven-eighths of an inch, and extends from near the median line toward the left nearly to the lateral wall of the pharynx. The surface of this body is pale, and no blood-vessels are apparent upon it, in which it offers a striking contrast with the neighboring parts. The body is freely movable, and flattened in its antero-posterior diameter to such an extent that, while touching the posterior wall of the pharynx, it does not project anteriorly beyond the middle of the tonsil. Rhinoscopic examination demonstrates clearly that the body is a tumor, springing by a pedicle from the soft palate. Its attachment corresponds with a space located one-fourth of an inch to the left

of the median line midway between the lower margin of the velum and the lower border of the left nasal fossa. Dr. Wagner believing, from the history of the case, that the growth was recent, and likely to increase rapidly in size, and that, from the position and size of its pedicle, its removal could be accomplished without much difficulty, decided to operate upon it at once. The operation consisted essentially in dragging the tumor downward into the pharynx as far as possible, and then dividing the pedicle with a knife. This apparent simple procedure was attended with unexpected difficulty, for, instead of yielding readily to the knife, the tumor proved to be so dense and resisting, that great force was required to effect its separation. Copious hemorrhage followed, but was speedily checked by ordinary methods. The portion of the tumor removed, upon careful examination and dissection, presented the following characteristics: it was an irregular, ovoid mass, flattened from before backward, about seven-eighths of an inch broad, three-fourths of an inch in its vertical diameter, and from three-sixteenths to one-fourth of an inch in thickness. It was thickest at its margins, while its middle and anterior surface was slightly concave. Its surface was covered with an integument bearing no resemblance whatever to mucous membrane, and furnished with fine, but distinctly visible hairs. Beneath the integument was a layer of fat, and, beneath the layer of fat, two plates of cartilage. Further dissection demonstrated the existence of three cartilaginous plates, two large and one smaller. These were curled outward at their margins, which tapered off to a thin and serrated edge. The plates were separated by fibrous tissues. In all its essentials the tumor presented an extraordinary analogue to the helix of a normal ear.

The tumor was hardened in absolute alcohol, and microscopic sections made completely through its vertical and transverse diameters, and when stained with carmine and mounted in Canada balsam, gave under the microscope the following appearance. The tumor was covered with a true skin, complete, with one exception, in all its essentials, as follows: first, a delicate, but clearly marked layer of horny epithelium, covering a thick rete Malpighii, into which there extended a large number of simple papillæ; beneath this a corium, containing many hair-follicles, which in most instances were provided with a delicate, non-pigmented, but otherwise perfect hair. Into the majority of the hair-follicles there opened a large, sebaceous gland. Both the sebaceous glands and the hair-follicles were typical and very abundant. Beneath the integument was a thick layer of fat, in which were scattered small bundles of fibrous tissue. Then followed a tolerably dense layer of fibrous tissue, which covered a thick plate of reticular, elastic cartilage. This plate adjoined another similar plate, and between them was a thick mesh-work of fibrous tissue, which contained many blood-vessels, and formed in reality the central part of the tumor.

The story of the patient as to the recent origin and rapid growth of the tumor was evidently incorrect. Although never before observed, it was without doubt congenital. Diligent search through all of the available literature bearing upon this case has failed to disclose a single reference to any such growth as the above. By an extraordinary coincidence, the following appeared in a report of the Pathological Society of London, published in the London *Lancet* of April 9, 1881, p. 581:

"Dr. Hale White showed a specimen of dermoid tumor of the soft palate, from a child three years of age, who had had some difficulty in swallowing. The uvula was much hypertrophied and lay in front of the tumor, which apparently sprang from the upper surface of the soft palate; the tumor was two inches in height, and had a wide base; it was freely movable, and was removed by Mr. Morrant Baker. It was found to be soft in consistency, except on one surface, where a plate of cartilage existed. Microscopically it reproduced all the cutaneous structures —epidermis, papillæ, corium, fat-cells, but no elastic fibres. There were also many hairs lodged in follicles, into each of which a single sebaceous gland opened. The plate of cartilage was incrusted by a dense layer of fibrous tissue; its matrix was very scanty and fibrillated, the outer layers of the cartilage being composed of nucleated stratified cells. Dr. White referred to a similar growth from the basilar process of the occipital bone, recorded by Dr. Abraham in the *Journal of Anatomy*, vol. xv., and to one on the palate of a new-born child, described by Dr. Kidd in 1856. As to the origin of the tumor in the present case, it might have grown in connection with the Eustachian tube; but its epiblastic nature was sufficiently accounted for by its occurrence in front of the junction of the hypoblast and epiblast. It might be an instance of "reversion," for in the rabbit there occur in this region four tufts of hair, two above and two below. Mr. Rushton Parker had lately seen a similar dermoid growth removed by Mr. Bickersteth from the pharynx of a child and depending from behind the soft palate."

Dr. Heineman presented a specimen, removed from the body of a man about forty years old, which illustrated

COMPLETE INGUINAL REDUCIBLE EPIPLOCELE, WITH AN UNDESCENDED TESTICLE BEHIND THE PERITONEUM AND ALONGSIDE THE RING.

The peculiarity was that when the omentum was in the scrotum it gave a feeling as though the testicle itself was there.

Dr. Heineman also presented, in behalf of a candidate,

A LIVER WITH THE LOBES TRANSPOSED.

Dr. Beverley Robinson presented a

FOREIGN BODY REMOVED FROM THE NOSE.

The history was furnished by Dr. G. J. Moser.

J. R——, cabinetmaker, aged fifty-seven, was attacked on March 5, 1881, with a severe epistaxis. He called in Dr. D. T., to check the hemorrhage. Dr. T., not being capable of arresting the bleeding, sent for Dr. K. The latter, on his arrival, made a tampon by tying a piece of sponge about the size of a walnut to a single string, and plugging the posterior nares in the usual manner, thus arresting the bleeding.

The patient remarked to the doctor that he did not leave a string in his mouth, in order that the sponge might be removed in a few days, as had been done heretofore by another physician. The doctor answered—"We don't always do so, because the patient might bite the string off, and it would feel very unpleasant in the throat." The case progressed favorably until March 8th, when Dr. T. endeavored to remove the plug by passing his finger into the patient's pharynx, but failed. He then passed a flexible bougie through the patient's inferior meatus, reached the pharynx, but did not dislodge the sponge.

On March 12th he repeated the effort, and with

the same result. He then cut the string which depended from the left nostril, close to the man's nose, at the same time telling the patient that the sponge would rot out in time.

On March 28th, Dr. Moser was called in and found the patient with his head bent over a basin, the nose discharging pus very freely, the offensive odor of which made it almost impossible to approach him. He passed a No. 8 flexible bougie through the inferior meatus, but failed to remove the plug. He then washed the pharynx with a posterior nares syringe, and employed a Davidson's syringe to dislodge it from before backward, but this attempt proved futile.

On April 1st, Dr. Beverley Robinson saw the patient with him and passed a large steel sound through the lower meatus, which failed. He then tried to grasp the hidden treasure by the use of different curved forceps, and also with his finger, but with no better result than at first.

On April 3d, Dr. Moser discovered the short string attached to the sponge depending about a quarter of an inch from the patient's nose. To this he attached a longer string, which he fastened to a flexible bougie. He then introduced the bougie through the lower meatus into the pharynx, and drew it through the mouth. The long string followed, and with considerable traction the sponge was removed, which caused the patient entire relief from his suffering.

Dr. Robinson thought the reason why he did not succeed in removing the sponge was because it had become wedged into the middle meatus behind.

MULTILOCULAR OVARIAN TUMOR—ACCIDENTAL INJURY CAUSING AMELIORATION OF THE SYMPTOMS—DEATH FROM CONSTRICTION OF THE INTESTINES AND GENERAL PERITONITIS.

The President presented a multilocular ovarian tumor that had been removed, *post-mortem*, from a lady, a patient of Dr. A. S. Purdy, at whose instance he had made an autopsical examination. The growth was first observed in 1864, when Drs. McComb and Peaslee assumed charge of the case. Nine years later, when Dr. Purdy was first called in consultation, three cysts were quite plainly recognizable. In the following year, 1874, a singular accident occurred, which had a marked influence on the after-history of the patient. Crossing the street one day, she was run over by a horse, the animal planting one foot squarely on the centre of the largest cyst. After removal to her home, it was found that the cyst had been ruptured. Acute peritonitis then set in, but the lady recovered in a great measure her health and strength. Subsequently operative interference was urged, at various times, but consent could not be obtained. Death took place in May of 1880, or 16 years after the first symptoms had been noticed. The final issue was brought about by general peritonitis in conjunction with constriction of the intestines, the latter resulting from the combined agencies of increasing growth in the tumor and the contraction of fibrous deposits due to peritonitis.

The special points of interest were, in the first place, the prolonged duration of the disease, for, according to T. Stafford Lee, the great majority of these cystic tumors terminated fatally within two years, if left to themselves, and Dr. John Clay, in giving the natural duration in 175 cases before the introduction of ovariotomy, found only fifteen in which it had been more than ten years, and further, according to Thomas Lee's statistics, showed also that in 94 out of 123 cases the average duration was less than five years where no certain surgical treatment had been adopted.

In the second place there had been amelioration of the symptoms, and a decided check given to the disease by an accidental injury, at which time singularly enough the tumor interposed and probably saved the patient's life. Finally, the cause of death was to be attributed to two conditions: one, the constriction of the intestinal base by which its functional activity was restricted; and the other, the alternating attacks of acute or chronic peritonitis that had existed during the latter years of her life.

Dr. Ripley referred to a case of ovarian tumor in St. Francis' Hospital, under the care of Dr. Gillette, who was about to operate, when the sac ruptured into the intestine, and the patient died.

Dr. Briddon remarked that rupture into the bowel was rare with ovarian tumor. He thought that the indication, in cases such as reported by the President, was immediate ovariotomy. For, if the patient should struggle through the peritonitis, the evil effects of the adhesions should be taken into consideration, and the operation be performed before peritonitis set in.

Dr. Sell referred to a case in which extensive adhesions resisted, but ovariotomy terminated successfully.

The society then went into executive session.

## MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

*Stated Meeting, May* 23, 1881.

Dr. A. E. M. Purdy, President, in the Chair.

THE PROPER LIMITATION OF EMMET'S OPERATION FOR LACERATION OF THE CERVIX UTERI.

Dr. Charles Carroll Lee read a concise paper on the above subject, in which he alluded to the unjust obloquy thrown upon the operation because it has been abused; to the words of commendation which had been spoken for it by Sims, Peaslee, Barker, and Thomas; and then proceeded to the consideration of conditions contraindicating its performance, upon which Dr. Emmet, as he thought, had not expressed himself sufficiently clearly and forcibly in any of his publications.

*First.*—The existence of peri-uterine cellulitis contraindicates the performance of Emmet's operation.

*Second.*—The existence of pelvic peritonitis is a contraindication to its performance.

*Third.*—When any decided inflammation exists about the uterus, or so long as any tenderness can be detected in the neighboring connective tissue it is unsafe to operate, and it is equally contraindicated when endometritis or cervicitis exists.

*Fourth.*—It is contraindicated by other forms of disease, general forms of ill-health (such as extreme anæmia, chlorosis, constitutional syphilis attended by vaginal lesions), excepting those conditions which it is reasonable to suppose depend upon the laceration itself.

The important question is, as has been clearly stated by Dr. Thomas: How often do such lacerations produce results which have an important bearing on uterine pathology? Upon the recognition of this fact the necessity for operative interference should depend; and if, without reference to their pathological influences, all cervical lacerations are closed

with sutures, many women will be exposed to unnecessary surgery.

In proper cases, nothing had convinced Dr. Lee that any form of caustic or cautery is to be preferred to the simple surgical operation. After urging a more careful supervision of the lying-in state than generally prevails, maintaining that a woman should never be discharged from the obstetrical list until it has been determined whether or not laceration of the cervix or perineum exists, and if present not until they have been repaired, Dr. Lee reached these conclusions:

*First.*—When cases of lacerated cervix present themselves, never consent to operative treatment until all traces of pelvic inflammation have been removed.

*Second.*—Be guided, in determining whether or not an operation is necessary, solely by the pathological import of the laceration and its probable influence upon the pelvic tissues.

*Third.*—In the treatment of cervical laceration, adhere resolutely to trachelorrhaphy until time shall yield us a more sure and better method than that devised by the patient ingenuity of Dr. T. Addis Emmet.

To Dr. M. A. Pallen, Dr. Lee gave the credit of being the first to close a lacerated cervix with sutures immediately after the occurrence of the accident.

The discussion was opened by Dr. T. Addis Emmet, who regarded Dr. Lee's paper as very timely, for, without doubt, the operation had been performed too often, and it was time that some limitation should be placed around it. He thought that the line could be drawn even closer than had been done by Dr. Lee, and he would say that the laceration in itself does no harm and should receive no treatment unless some bad results come from it. If it extends into the connective tissue of the pelvis, more or less of pelvic inflammation is sure to occur. He thought that it might be properly stated that if there has been no cellulitis and the accident occurs, the rent will heal and give rise to no trouble. The bad effects come from persistent cellulitis.

When he read his first paper, to which Dr. Lee had referred, he stated, in speaking of the operation of division of the cervix for dysmenorrhœa and sterility, that his objection to it was because it was liable to be followed by a gaping of the flaps and eversion extending into the uterine canal. At that time he supposed the eversion was incident to the process of fatty degeneration, that the posterior lip naturally impinged against the posterior vaginal wall, gradually flattened, became a source of irritation. and after it had existed a little time, all appearance of the division or laceration became lost. But for some time past he had been studying cases with reference to this particular point, and had reached the conclusion that the rolling out is due to inflammation of the connective tissue of the pelvis obstructing the circulation, and in that manner causing eversion of the lacerated cervix; and his reason for so believing was that when he patiently treated the cellulitis, and cured that, the operation had not been required in one in ten cases, and, furthermore, relapses had seldom occurred in cases thus treated. It is important to recognize the existence of pelvic inflammation however slight it may be, and in those cases it cannot be said whether or not the operation will be necessary until it can be determined whether or not the patient can be cured otherwise. When he read his paper in 1874, he directed attention to the propriety of operating while pelvic inflammation existed, and said: "So long, however, as there can be detected, by pressure from the finger, any tenderness in the neighboring connective tissue, it is not safe to operate, as we may feel satisfied fully that a certain amount of cellulitis has previously existed, and a condition is still remaining which would require but slight provocation to re-establish the inflammation, were we to disregard this warning."

The successful treatment of uterine disease depends upon the amount of indurated tissue remaining. When the rent has extended beyond the cervix into the connective tissue of the pelvis, a cicatricial mass frequently forms, which acts as a foreign body. For twenty years or more he had recognized the fact that when the cervix is indurated the patient is liable to reflex disturbances, neuralgias, etc., and not only that, but persistent anæmia is frequently produced, which will not yield to any treatment until the woman has passed through the menopause. Years ago, nitrate of silver was used more freely than at present, and so also were cases of neuralgia dependent upon uterine disease more numerous than now. Formerly Sims amputated the cervix for the relief of some of these cases, but that did not seem to work well, and Dr. Emmet was led to simply shave the cervix, draw the vaginal tissue over it, which proved equally successful. In many cases the neuralgia was removed, and general nutrition greatly improved.

It was true that his explanation had not been generally accepted, but the clinical fact, however, could not be refuted, that if cicatrical tissue in the cervix is removed, and, by any means that cervix is restored to a soft, healthy condition, the exciting cause of neuralgia and anæmia also is removed. When a patient comes to him suffering from neuralgia, he wastes but little time in preparatory treatment, except to cure the cellulitis, but goes at once to the limit of the laceration, and removes all cicatricial tissue. His explanation of the effect upon the general nutrition of the patient in these cases was by the effect produced upon the sympathetic nervous system. His advice was to first remove the cellulitis as far as possible, and a large number of cases would not, when that was done, need an operation. If cicatricial tissue exists in the angle of the laceration, and the woman suffers from reflex disturbances—and any organ in the body might be so affected—an operation is necessary.

If cicatricial tissue is found hardening the surface of the cervix, and no anæmic or other symptoms exist, let the woman alone, but she must be watched. A mere laceration need not be closed unless it gives rise to symptoms. Usually, when the cases are studied carefully, evidence of blood-poisoning at the time of parturition will be found, and perhaps has prevented the healing. If care is taken after confinement, to keep the parts *clean*, probably in most cases healing will occur spontaneously.

Dr. M. A. Pallen said that in 1868 he closed a lacerated cervix by what is known as Emmet's operation, published an account of it in July of the same year, in the *St. Louis Medical and Surgical Journal*, and was not aware, at the time, that the operation had ever been performed. Since then he had not seen it performed by any one, except Dr. Henry Goldthwaite, and therefore his conclusions were the result of his own observation. To Dr. Emmet was due all the benefits which the profession had received from the operation.

Dr. Lee had placed him upon record as the first who had stitched the torn cervix at the time of the occur-

rence of the accident. In 1869 he made his first operation, and published it in the *Richmond and Louisville Journal* in 1874, although the paper was written in 1872. Since that time he had performed the operation several times.

Again he wished to place himself on record. In a paper read in 1867, and published in the "Transactions of the American Medical Association," he stated that no operation was ever to be attempted about the cervix uteri in cases in which there were any traces whatever of pelvic cellulitis. Dr. Emmet had pointed this out also, thoroughly, in his work on Gynecology. Dr. Pallen took issue with Dr. Lee and also Dr. Emmet as to the propriety of waiting before performing the operation. It is a good rule in surgery, and he believed that it is applicable here, to mend all fractures of tissue, whether skin, bone, or mucous membrane, as soon as practicable, and the rectification of the fracture is regarded as a preventive against future difficulty. He had not seen a case in which he regretted having performed the operation immediately, but he had seen some in which he had regretted that he had not performed it. If the laceration was sewed up, primary hemorrhage was avoided. The shock from the operation was slight. If it was well done, absorption of septic material was avoided; and if the parts were kept properly cleansed, union was prompt and satisfactory, and the result would be good in a very large majority of cases. Latterly he had become convinced that the laceration comes from too prolonged labor—too great delay, instead of too rapid labors or dragging the child through with instruments.

Dr. Paul F. Mundé thought that doubtless the operation has been performed improperly, but perhaps not by specialists. Since he read his paper on the subject, *three* years ago, he had examined 569 women who had borne children, and in 171 laceration of the cervix was found, a much larger percentage than in the group of cases first reported, consisting of 700 women who had borne children, with 119 cases of laceration of the cervix. The total was, 1,269 women, and 229 cases of laceration, or 22.6 per cent.

Dr. Pallen said he had found laceration in 45 per cent. of women who had borne children.

Dr. Emmet had found it in a little over 33½ per cent.

Dr. Mundé thought that if the laceration was sufficient to permit eversion of the cervix the operation should be performed. Large lacerations should be closed, even though they be cicatrized. He then spoke of various indications for performing Emmet's operation, as cervical catarrh, menorrhagia, or metrorrhagia, cervical endometritis, chronic ovaritis, areolar hyperplasia, reflex neuralgia. If the cervix was cicatrized over *smoothly*, he doubted the propriety of the operation. Anæmia and tuberculosis were not contraindications in all cases. He agreed with Drs. Lee, Emmet, and Pallen with regard to the importance of avoiding the operation when pelvic inflammation existed, when the slightest tenderness was present, provided he had not given the patient sufficient time to get well of such inflammation. He believed that the operation was not contraindicated in all cases, although the vaginal walls might not be entirely soft; but he would not make that a rule.

Dr. William M. Polk drew attention to the lack of unanimity of opinion, among the speakers by whom he had been preceded, with reference to when the operation should be performed, and, to a certain extent, as to the cases in which it should be resorted to. If he understood Dr. Pallen correctly, the operation was performed at the time of parturition, for the purpose of arresting hemorrhage, and doubtless it was proper that it should be done under those circumstances. But he took issue with Dr. Pallen on the claim that immediate closure of the laceration protected the woman from septic poisoning. The claim had been that the edges of the wound should be closely approximated, and if not so closed, open vessels would facilitate absorption of septic material; and besides, the woman would be saved from the secondary operation. Dr. Polk granted that, if the edges of the wound could be approximated, as in the secondary operation, the object sought for would be obtained; but, as a matter of fact, it was exceedingly difficult to accomplish that, even with the best assistants and light, and under the most favorable circumstances; therefore, in most cases probably, the end desired would not be secured. That being the case, he thought that the patient should be spared the inconvenience of the primary operation; and that the secondary one would answer all purposes, except, perhaps, in certain cases of hemorrhage. He thought that many of the indications mentioned by Dr. Mundé could be grouped under a single head—namely—subinvolution.

Dr. Polk then spoke of the possibility of preventing laceration of the cervix uteri in labor. Of course, all the graver operations in midwifery were quite certainly accompanied by more or less laceration of the cervix. But in ordinary labors, he believed that *premature rupture of the membrane was a prominent cause of laceration of the cervix, and should be avoided.*

Dr. Putnam Jacobi remarked that the fact was interesting, that it was not necessary to have merely a cicatrix in order to have reflex disturbances developed, but that it must be a cicatrix involving the mucous membrane. The whole pathology of the lesion went to confirm the view that the starting-point for the reflex irritation was somewhere in the mucous membrane; but she believed that we must look to the cerebro-spinal, and not to the sympathetic nervous system, for the explanation of the reflex phenomena manifested.

Dr. W. Gill Wylie believed that, if the uterus was normal, laceration of the cervix would not occur, even if instruments were used in effecting delivery; but with an abnormal condition of the cervix, rupture almost always occurred. He then referred to cases in which he had dilated the internal os, for the purpose of curing the vomiting of pregnancy, and with excellent results; and in those cases, rupture did not take place during labor. He did not believe that the disturbances regarded as reflex were due simply to pressure produced by cicatricial tissue in the angle of the laceration; because that tissue might be softened and yet all the symptoms remain. The softening, however, leaves the lips of the laceration in a condition unfavorable for subsequent operation.

The society then adjourned.

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Crude Petroleum in Phthisis.—Dr. C. S. Strothers (*Medical and Surgical Reporter*) adds another to the list of those who claim the best results from the use of petroleum in phthisis. He has given it in four-grain doses, in pill or capsule. He "has found it far superior to cod-liver oil in phthisis, as its effects have been not only to relieve the cough, but to improve the appetite and produce an increase in the waste of the body."

# Correspondence.

## GYNECOLOGICAL OPERATIONS — THE METHODS OF PROFESSOR MARTIN, OF BERLIN.

To the Editor of The Medical Record.

Sir: The method of performing operations on the uterus, vagina, and perineum, practised by Dr. August Martin, of Berlin, seems to present some advantages when compared to that very commonly practised.

Instead of keeping the surfaces clear of blood by sponging and occasional irrigation, he employs constant irrigation. A can holding several gallons of a solution of carbolic acid stands at the side of and above the operating-table. By means of a rubber tube with a gutta-percha tip, water is constantly conveyed from the reservoir to the wound. The patient lies in the lithotomy position, with her pelvis resting upon a cushion, which is covered with a rubber cloth. This cloth hangs down over the end of the operating-table, and into a large tin receptacle standing upon the floor between the legs of the table. The operator protects himself by wearing a rubber apron, the ends of which also hang into the tin receptacle. The constant stream of water serves not only thoroughly to disinfect the parts, and immediately wash away any septic discharge that may be present, but also to check the bleeding in some degree, since the water, being at the temperature of the room, is slightly cooler than the body. Should the bleeding be considerable from any particular point, this is commonly controlled by pressure of the assistant's finger until the operation is completed, and then all bleeding is effectually checked by the stitching together of the wounded surfaces. Ligatures are almost never used. The strength of the carbolic solution used is about two per cent. for ordinary cases, when there is no especially septic element present, but in cases of cancer or foul discharge the solution is about five per cent.

The material used for sutures is always silk, since catgut yields too soon to withstand the tension brought upon the adjacent surfaces, besides being very hard upon the fingers of the operator when so many stitches are necessary as in these operations.

For chronic metritis, accompanied by endometritis and endocervicitis, Dr. Martin operates as follows: The patient is placed in the lithotomy position, and the vagina is held open by a posterior and lateral spatulæ. The uterus is held forward by means of double musket-ball extracting forceps, which close with a catch. These are inserted into the anterior and posterior lips. The interior of the cervix and uterus are then curetted and thoroughly irrigated with the douche, the nozzle being inserted into the uterus. About three drachms of perchloride of iron are then injected into the cavity of the uterus, both to act as styptic and caustic.

The common sharp curette is not used for this purpose, but one made of steel, the ends being in the form of a half-cylinder, with the cutting edges dull and about two inches long. The lips of the cervix are divided from each other by an incision, extending to their point of union with the vagina. A wedge-shaped piece is then excised from each lip. Two incisions are made extending from one side of the lip to the other, and including a considerable portion of the tissue of the cervix, which is usually hypertrophied. Silk sutures are then inserted from the outer surface of the cervix into the cervical canal in the anterior lip, and in the reverse direction in the posterior lip, so that the refreshened surfaces of each lip are united to each other, and then the two lips of the cervix are united at their extremities. The sutures are placed closely together, so that there is no bleeding, and are cut off short. When completed, the cervix should resemble in shape and size a normal cervix, and the os should be easily pervious to the sound.

In cases of prolapse of the uterus, the curetting of the uterus and amputation of the cervix immediately precede the operation of colporrhaphy, since these serve to produce a reabsorption of the usually hypertrophied tissues and a consequent decrease in the weight of the uterus, and its tendency to force downward the flow of the pelvis. Anterior colporrhaphy is performed by removing an oval piece of mucous membrane, about one and one-half inch wide, reaching from the tubercle just behind the urethral opening backward to the cervix.

The part removed has only the thickness of the mucous membrane, and the freshened surface is carefully trimmed with scissors, so as to remove all ragged tissue, and make healing by first intention more certain. Silk sutures, passing beneath the freshened surface, are inserted one-fourth inch from one another, so that the deep, as well as the superficial parts, are included, and thus brought in apposition; and between these, superficial sutures are inserted, so that the coaptation of the surfaces is exact.

Next, posterior colporrhaphy is performed, not by removing a single oval piece of mucous membrane from the posterior central surface of the vagina, but by removing two pieces on either side. The reason for this is that the posterior wall, being thicker than that at either side, makes a good support for the uterus after the operation. Also, a transverse section of the vagina on the cadaver shows that there are two folds in the vagina, at either side of the posterior column, so that the posterior wall of the vagina has a projecting thick central portion, with two furrows on either side. To remove the superabundant tissue, an oval piece of mucous membrane, about one inch in width, is removed, first from one side of the central column, and then the wound is united by deep and superficial silk sutures, as in the anterior operation. A similar operation is then performed upon the other side. The column of mucous membrane left between the two sides is about one inch wide. The two pieces removed extend from either side of the cervix above, down to the perineum. Last of all, the perineum is freshened, the freshened surface extending about half the width of the vagina forward, and the surfaces are so united that the sutures form a single straight line, extending outward from the extremity of the two lines of sutures, uniting the two lateral operations. The patient is placed in bed, the knees are tied together, and she must lie perfectly quiet on her back, without attempting to move herself or sit up, for three weeks; and a great degree of the success of the operation depends upon the quietness of the patient. The patient is not catheterized, unless she cannot pass her water voluntarily, and if the bowels do not move during the two days succeeding the operation, a dose of castor-oil is given. The diet does not differ from that given to other surgical patients, since defecation does not seem to be prejudicial to the healing of the operation. After micturition, the parts are cleansed by running water over them into the bed-pan. This

is done at least three times daily, but not much water must be used, since it seems to prevent healing. No water is injected into the vagina.

The part is not disturbed and no stitches are removed until the end of the third week, when the superficial sutures are removed, while the deep ones remain for from four to six weeks, being removed a few at a time. No tension is exercised upon the parts in order to remove the sutures.

The results of Dr. Martin's operations have proved highly satisfactory. With patients who lie still the healing is almost universal. If patients are very restless and do not lie quietly, healing of the perineal portion is sometimes incomplete, in which case the unhealed portions must be operated upon a second time. The vaginal part of the operation has never failed to heal. Since the method of irrigation has been practised Dr. Martin has operated upon one hundred and forty cases of prolapse and amputated over three hundred and fifty cases of hypertrophied cervix, and in this number but two patients have died, one of prolapse and one of hypertrophied cervix.

The relief afforded the patients by both operations is very great. Not only the immediate results are good, but complications, such as bleeding, parametritis, etc., are relieved. In the last one hundred and fifty cases there has not been a single secondary hemorrhage. If the healing has been complete, the uterus does not again tend to descend; but if incomplete and there is again a tendency to prolapse, the unsuccessful portion of the operation must be repeated.

This radical method of treatment practised by Dr. Martin is preferred in most cases to other means, since its results are more complete and permanent. Pessaries are not only filthy, but tend to distend the vagina, and, though enlarged often, fail at length to retain the uterus. Thus, if astringents fail to control the prolapse, and there are no especial contraindications to an operation, such as inflammation, etc., the operation is performed without delay.

The opportunity for seeing plastic operations in gynecology with Dr. Martin are, so far as I know, unsurpassed in Germany. During the year he has about one thousand four hundred cases, and a daily attendance upon his polyclinic of from twenty to forty, and in his private clinic from one to four operations. Four or five gentlemen are allowed to see the operations in his private clinic and to examine the patients in his polyclinic. No one attending the operation is allowed to have anything to do with pathological or anatomical material or other operations where he might come in contact with septic material.

D. P. A.

BERLIN, GERMANY, June, 1881.

READY METHOD OF PREPARING FOMENTATIONS.—Take your flannel, folded to the required thickness and size, dampened quite perceptibly with water, but not enough to drip, and place it between the folds of a large newspaper, having the edges of the paper lap well over the cloth, so as to give no vent to the steam. Thus prepared, lay it on the heated surface of the stove or register, and in a moment steam is generated from the under surface, and has permeated the whole cloth sufficiently to heat it to the required temperature. This method is often very convenient and efficient where there is no opportunity to heat much water at a time.—*Michigan Medical News.*

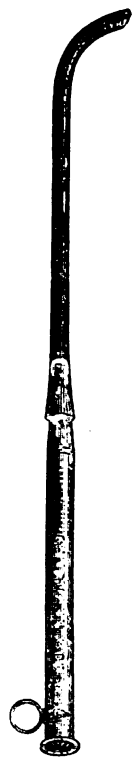
# New Instruments.

## A NEW EUSTACHIAN CATHETER.

By SAMUEL SEXTON, M.D.,

NEW YORK.

AN apology is not required, I trust, for offering a Eustachian catheter, the introduction of which into the guttural mouth of the Eustachian tube is less painful than those made of either metal or vulcanite. Flexible instruments have been devised, as is well known, but none have possessed sufficient merit to retain a permanent place in the aurist's armamentarium. So far as is known to me, M. Deleau was the first to recommend a flexible catheter, the description of which may be found in his "Traité du Cathétérisme de la Trompe d'Eustache," etc., p. 115. Paris, 1838. But the pain caused in withdrawing the stilette of Deleau's instrument led to its abandonment. It occurred to the writer that a catheter made of soft rubber, but sufficiently firm to retain the necessary curvature of the beak, could be used without a stilette, thus overcoming the principal objection to its adoption.



A catheter of this kind is shown in the wood-cut. The part A is a canula of German silver, nickel-plated; it is eight and a half centimetres in length and about one-half of a centimetre in diameter. The soft-rubber portion, C, is eleven and a half centimetres in length. The cut is about one-half the size of the instrument. The metallic portion affords a firm handle for holding the instrument during its introduction and for subsequent manipulations.

Owing to the softness of its pharyngeal end, the catheter may have a much greater curvature than one of inflexible material, thus permitting of its secure lodgment in the mouth of the Eustachian tube when the necessary manipulations of the surgeon have brought it in position.

In cases of lateral deviation of the nasal septum, with closure of one side, I have succeeded in introducing the catheter into either Eustachian tube while the instrument remained in the unobstructed meatus. I may here state that the smooth and soft finish of the rubber used by the maker of the instrument will allow of very free movements being made in the nasal meatus and vault of the pharynx without giving rise to irritation of these sensitive parts.

Several sizes of the rubber portion of the instrument may be employed, but I have as yet required only two in my own experience, one of them being five and the other seven millimetres in diameter. The thickness of the rubber is one millimetre. The beak is more tapering than is shown in the cut. The canula is tapering where it enters the flexible portion; in attaching the two parts the ring guide of the canula should correspond with the concavity of the curved beak. When the operator finds that the beak has engaged in the mouth of the Eustachian tube, as indicated by the diagnostic tube, it may be

more firmly secured in its place by gentle inward pressure. From some months' experience in using this catheter I believe it to possess the following advantages over other instruments:

It enables the surgeon to more easily perform the operation of Eustachian catheterism.

It is less painful to the patient.

It admits of greater cleanliness, each patient may retain possession of the soft rubber portion of the instrument which has been used in his case. The instrument is made by George Tiemann & Co. of this city.

Since writing the above, the author recalls the fact that an English surgeon, Cleland, introduced a flexible Eustachian catheter in 1731.

12 West Thirty-fifth Street.

## Medical Items and News.

The International Medical Congress.—The following daily programme has been issued as a provisional scheme:

*Tuesday, August 2d*, 10 A.M. to 6 P.M.—Registration of members and issue of tickets at the office of the Reception Committee, in the Royal College of Physicians, Pall Mall East. 3 to 6 P.M.—Reception of the members of the Congress by the Executive and Reception Committees at the Royal College of Physicians.

*Wednesday, August 3d*, 8 A.M. to 6 P.M.—Registration of members and issue of tickets at the Royal College of Physicians. 11 A.M.—First general meeting, St. James's Great Hall; address of welcome by the Chairman of the Executive Committee; Secretary-General's report; election of officers and constitution of the Congress; election of honorary presidents of the Congress; election of honorary presidents of the sections; inaugural address by the president of the congress. 3 P.M.—Meeting of the sections; constitution of the sections, and other business. 9 P.M.—Conversazione at South Kensington Museum (entrance Exhibition road), given by the English members of the congress to the foreign members.

*Thursday, August 4th*, 10 A.M. to 1 P.M.—Sectional meetings. 1.30 to 3.30 P.M.—Visits to hospitals—Guy's Hospital, London Hospital, St. George's Hospital, St. Mary's Hospital, St. Thomas's Hospital, Westminster Hospital. The medical officers and lecturers will be prepared to receive such members of the congress as may desire to visit these hospitals, and to inspect their schools and museums. 2 to 3.30 P.M.—Additional meeting-time for the sections. 4 to 5.30 P.M.—Second general meeting, theatre of the University of London; address by Prof. Maurice Raynaud, Paris: "Le Scepticisme en Médecine, au temps passé et au temps présent." 5.30 P.M.—Banquet given to a certain number of the members of the congress by the Lord Mayor of London, at the Mansion House.

*Friday, August 5th*, 10 A.M. to 1 P.M.—Sectional meetings. 1.30 to 3.30 P.M.—Visits to hospitals—Bethlem Hospital, Charing-cross Hospital, King's College Hospital, Middlesex Hospital, St. Bartholomew's Hospital, University College Hospital. The medical officers and lecturers will be prepared to receive such members of the congress as may desire to visit these hospitals and to inspect their schools and museums. 2 to 3.30 P.M.—Additional meeting-time for the sections. 4 to 5.30 P.M.—Third general meeting, theatre of the University of London; address by Dr. Billings, Washington, U. S., on "Our Medical Literature." 9 P.M.—Conversazione at the Royal College of Surgeons.

*Saturday, August 6th*, 10 A.M. to 1 P.M.: Sectional meetings. 4 to 7 P.M.: Reception of a certain number of the members at Kew Gardens, by Sir J. D. Hooker. 4 to 7 P.M.: A garden party will be given by Mr. and Mrs. Spencer Wells, at Golder's hill, Hampstead. 6.30 P.M.: The United Hospital Club will entertain a party of the members of the congress at dinner at the "Star and Garter," Richmond hill.

*Sunday, August 7th*, 10 A.M.—A service will be held in Westminster Abbey; sermon by the Very Rev. Dean Stanley, D.D., F.R.S. 3.15 P.M.: A service will be held in St. Paul's Cathedral; sermon by the Rev. Canon Liddon, D.D., D.C.L. 2 P.M.: The Royal Botanic Society's Gardens, and the Gardens of the Zoölogical Society, in the Regent's Park, will be open free to members on this and on every day of the week, on presentation of their tickets. The Royal Gardens at Kew may be visited on Sunday from 9 A.M. till sunset, and Hampton Court Palace and Gardens from 2 P.M. till sunset.

*Monday, August 8th*, 10 A.M. to 1 P.M.—Sectional meetings. 2 to 3.30 P.M.: Additional meeting-time for sections. 4 to 5.30 P.M.: Fourth general meeting, theatre of the University of London; address by Professor Volkmann, Halle. 6.30 P.M.: Dinner given to a certain number of the foreign members of the Congress by the worshipful master and wardens of the Society of Apothecaries in their hall in Blackfriars. 9 P.M.: Soirée in the Albert Hall, and the International Medical and Sanitary Exhibition, South Kensington.

*Tuesday, August 9th*, 10 A.M. to 1 P.M.—Sectional meetings. 2 P.M. to 3 P.M.: Fifth general meeting, theatre of the University of London. Address by Professor Huxley, F.R.S., D.C.L., London, "The Connection of the Biological Sciences with Medicine." 3 P.M.: Concluding meeting of the Congress.

After the concluding meeting the members, accompanied by their friends, will proceed to Victoria Station, for High Level Station (London, Chatham, & Dover Railway), where special trains will be in waiting at four o'clock, to convey them to the Crystal Palace. After a visit to the Palace and grounds, an informal dinner will take place in the concert room about seven o'clock.

Places of interest may be visited by members of the Congress, on conditions which can be ascertained at the office of the Reception Committee.

*Friday, August 5th*, 12.45 P.M.: Mr. John Penn will receive a certain number of the members of the Congress on board a special steamer at Charing-cross pier, in order to proceed down the river to Greenwich, and after luncheon there with Mr. Penn to visit the engine works of the Messrs. Penn, returning either by water or rail to Charing-cross.

*Saturday, August 6th*, 2 P.M.: Excursion to Folkestone. A certain number of members will leave Charing-cross Station by special train, provided free of cost by the South Eastern Railway Company, to witness the unveiling of the Harvey memorial statue. After the ceremony the Mayor and Corporation of Folkestone will entertain the visitors at a banquet in the Town Hall. 2 P.M.: Excursion to Hampton Court. Under the guidance of Dr. Langdon Down a party will visit Hampton Court Palace and Gardens, proceeding thence by river to Hampton Wick,

where they will be entertained by Dr. Down at a garden-party at his residence, Normansfield. The members can reach Hampton Court either by the road, the river, or the rail. A special train will leave Waterloo Station (South Western Railway) at 2 o'clock.

*Sunday, August 7th*, 1.30 P.M.: Excursion to Boxhill. A special train will leave Victoria Station (Brighton & South Coast Railway) for Boxhill. At Burford Lodge, close to the station, Sir Trevor Lawrence, Bart., M.P., will receive a party of the members of the Congress at luncheon. The train will return from Boxhill to London at 6 P.M.

*Monday, August 8th*, 11 A.M.: Visit to the Docks, under the guidance and hospitality of Sir George Chambers, chairman of the London, St. Katherine's, and Victoria Dock Company. A limited number of members will proceed to St. Katherine's Dock House on Tower Hill at 11 A.M., where the indigo and tobacco floors will be inspected, and in the adjoining London Dock, the ivory, drug, spice, and wool floors, and also the largest wine vault. From the Shadwell basin a steamboat will then take the party, for whom Sir George Chambers will provide luncheon on board, down the river to the Victoria Docks. Having passed through the Royal Victoria and Royal Albert Docks, the party will return by the river to Charing-cross pier.

WILLIAM MACCORMAC,
*Honorary Secretary-General.*

CASTRATION FOR DEMENTIA FROM MASTURBATION.—Dr. W. L. Folsom, in a letter to the *Michigan Medical News*, says that in 1843 Dr. Josiah Crosby, then at Laconia, N. H., and later at Manchester, N. H., with the assistance of Dr. Folsom and another medical student, and with the consent of the patient and his father, castrated a young man for approaching dementia from masturbation. The patient was twenty-two years of age, and was intelligent and educated. He had ceased to leave his house, or to mix in society, and did not wish to see any one. He had been medically treated by various physicians, but to no purpose. The operation completely cured and restored him to usefulness. He became afterward an active business man.

Dr. Folsom believes that this was the only treatment that could have saved the patient, and he believes that there are many just such cases throughout the land now who can be cured in no other way. Superintendents of insane asylums especially, should, by the consent of the man's friends, castrate hopeless cases of dementia from masturbation.

A CURIOUS CASE OF MALPRACTICE.—Dr. Caroline S. Pease, of Troy, N. Y., writes: "In June of the present year a patient presented herself at my office for examination, who gave the following history: Two years ago she was attended in her first labor by her family physician, a homœopath of good reputation. A laceration of the perineum was sustained, which was promptly operated on by the attendant. As the result of this, as he informed her, a partial union took place, but a secondary operation would be necessary so soon as her strength permitted. The usual subjective symptoms followed—constant backache, fulness low in the pelvis, etc.—and her general health became greatly impaired. After her labor no attempt at resumption of the marital relations was made, and dread, both of the surgeon's knife, and of the exposure incident to the secondary perineal operation, led to its postponement until a friend induced her to place her case in my hands, two years after the injury was sustained. Ocular inspection revealed a fairly good perineum, but a digital examination disclosed the fact that the anterior inferior portion of the cervix uteri had been included in the line of perineal union, and had firmly united with it. Two years' unremitting traction had drawn out a circular cord (which incision subsequently showed to be tubular) of the imprisoned uterine tissues, about three-fourths of an inch in length by one-third of an inch in diameter. This I afterward ligated and cut, at the patient's house, and was then enabled to restore the long-suffering organ to something like its pristine position, and to retain it there by an Albert Smith pessary."

PRESCRIBING THEIR OWN MEDICINES.—At a recent meeting of the Philadelphia Medico-Legal Society, the relation of physician and druggist was discussed at considerable length, and some interesting facts were given regarding the plan of the physician prescribing his own medicines. Dr. Peltz had tried this plan, and with great success.

A somewhat unique method was that described by others. The physician in this case employs a graduate in pharmacy, who calls at the close of his office hours for all the prescriptions. These he takes and compounds *secundum artem*, and delivers at the patients' residences, the physician keeping the prescriptions. This plan had worked well for several years.

REMOVAL OF RUPTURED UTERUS.—A correspondent of the *Boston Medical and Surgical Journal*, described an operation recently performed by Professor Braun at Vienna, which is certainly bold, and might be called unjustifiable.

A woman of thirty-five had been in labor thirty-six hours, and was nearly exhausted. Pains very feeble. She was delivered by forceps with some difficulty, when it was suddenly ascertained that the uterus was ruptured. The abdominal cavity was at once opened, and the uterus removed by the galvano-cautery, so as to make as little hemorrhage as possible. The division was made just above the cervix, which was left behind in the abdomen. There was not much hemorrhage from the operation. Carbolic spray and dressing were used. The woman died in about eighteen hours. The child could not be resuscitated. The cause of the rupture was not ascertained.

TINCTURA FERRI CHLORIDI.—Dr. H. Hagar recommends that tincture of chloride of iron be mixed with simple syrup and then with milk, this mixture not affecting the teeth nor the usual styptic taste being apparent.—*Druggists' Circular.*

THE OLEOMARGARINE BILL, which passed the New York Legislature, was vetoed by the governor.

AUSTIN FLINT, M.D., LL.D.—It is with a feeling of more than ordinary satisfaction that we announce the fact that Yale College, at her recent commencement, conferred upon Prof. Austin Flint the degree of LL.D.

AN EASY WAY TO ROLL BANDAGES.—A subscriber writes: "To the country practitioner, who has to make his own roller-bandages: bore a hole through each side of a cigar-box near the top; screw the box to something solid, bend a piece of wire to form a crank, run it through the holes in the box; wet the end of the bandage, lay it on the wire, and wind up. When done, make two or three reverse turns, and draw the wire out. Try it."

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# Original Lectures.

## THE PHYSIOLOGY OF THE PHENOMENA OF TRANCE.*

By C. L. DANA, A.M., M.D.,

PROFESSOR OF PHYSIOLOGY IN THE WOMAN'S MEDICAL COLLEGE OF THE NEW YORK INFIRMARY. PHYSICIAN TO THE CLASS OF NERVOUS DISEASES, NORTHEASTERN DISPENSARY.

The subject of what is popularly known as mesmerism has been lately exciting considerable attention, and it seems to possess enough of physiological interest to justify my bringing it to your notice in the present course. The phenomena, under the various names of animal magnetism, hypnotism, trance, etc., have long been known. They were first scientifically studied by the French Academy, nearly a hundred years ago, and then again by the same body in the early part of this century. Mr. Braid, an English surgeon, investigated the subject in 1843, and made a more thorough and scientific examination of it than ever before. His results were not received by scientists or medical men, however. In the past decade, and especially in the past two years, the phenomena in question have received more careful attention from scientific men than at any time previously. At present, investigations are going on in this country, in England, France, and Germany, and now the subject has been put upon a sufficiently scientific basis to allow of a physician's studying it and believing in its reality, without losing caste.

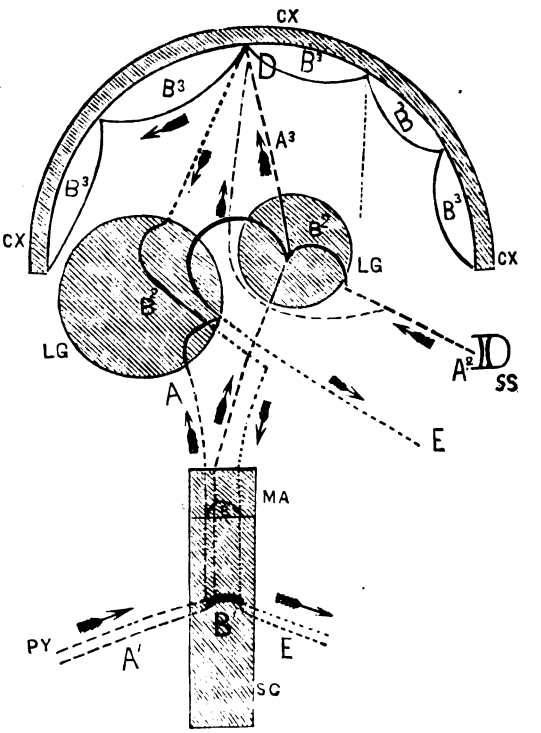
There are certain physiological facts which I wish to refer to, before showing trance phenomena in the subjects that I have here.

There exists in each of us what the philosopher Locke well described as a "power to begin or forbear, continue or end the several actions of our minds and motions of our bodies, barely by a thought or preference of the mind." This power is called the Will. It is not thought by modern psychologists, or even by all of the older schools, to be a separate and distinct force enthroned within us. Exactly what it is, however, is a question that we need not enter upon now. We do know that every man can check, regulate, or set in action, such muscular movements, or such trains of thought, as he wishes. You can understand that if this power were taken from us, it would materially limit our physical and mental being. We should be very much like machines, acting only, or chiefly, under certain stimuli applied from without. Our actions would then be essentially reflex in character. The reflexes would differ much in complexity, however, and they might be roughly divided into three classes:

I. The first embraces the simple reflex actions. I have told you what they are, and that they are processes which belong pre-eminently to the spinal cord and medulla.

II. The second class embraces higher centres and more complex activities.

You know that human beings all possess more or less of certain dexterities, such as riding, walking, the playing on musical instruments, etc. There are a few of these, such as suckling, which are possessed even at the time of birth. But the most are acquired by practice. Whatever their kind, we go through the various complicated movements pertaining to them, for the most part unconsciously. Thus, a person can walk, or dance, or play, and be entirely unconscious of any voluntary effort being expended. Now, we characterize these acquired and these inborn dexterities as automatic; and such, indeed, they are, using the term automatic in perhaps a rather loose sense. They are machine-like in character. Once being started they go on as a clock does when it is wound up. And we suppose that the particular place where this machinery is located is in the lower ganglia and hinder part of the brain, probably in the corpora striata and cerebellum. The cells and connecting fibres in these ganglia have become arranged into definite groups, each corresponding with and governing certain classes of muscular movements.




Diagrammatic representation of reflexes in trance: *sc*, *m*, spinal cord and medulla; *ss*, a special sense; *lg*, lower ganglia; *py*, peripheral surface of body; *cx*, cortex; $B^1$, $B^2$, $B^3$, commissural and associating fibres; = = =, afferent fibres; ....., efferent fibres. The curved lines $B^1$, $B^2$, $B^3$ represent the commissural fibres in the three different kinds of reflexes.

In ordinary (mesmeric) trance, afferent impulses pass generally to the cortex (*e. g.*, D), there to excite dominant ideas. In somnambulistic trance, the afferent impulses, starting from *py*, *ss*, or D, pass probably to the lower ganglia and excite the automatic machinery there. In trance-coma nearly all reflexes, except those of the medulla, are abolished.

All that is needed to set or keep these groups at work is the proper stimulus or successive stimuli; they then go on discharging efferent impulses, and producing the definite motor results.

We have an example of this in the inception and continuance of an ordinary walk, or in playing a well-known piece of music. It is a case like that of setting a machine going by the turning of a key. The cerebellum we may assume to be the machine, which has acquired certain powers of sending out co-ordinated impulses. It is generally set in motion at first by conscious impulses from the higher brain-centres, themselves roused by the visual sense. But

* Lecture delivered in course at the Woman's Medical College.

after a time it may also be stimulated by afferent impulses that do not rise to consciousness, but go directly to that part of the brain alone.

You can see by the diagram (p. 85) the course of the incoming and outgoing impulses in the case of habitual dexterous movements, and how the process may be called a reflex one. When the impulses go to and fro without exciting consciousness, we suppose that they do not pass up to the cortex at all, and that only the lower ganglia are active. The reflexes are genuine, but more complicated than those of the spinal cord. We may class them as reflexes of the second order, or of the middle projection system.

I have said that in unconscious and automatic acts the brain-cortex is not active. I will warn you, however, that this is rather an inference than a fact.

III. But we have still a third and higher system, in which there may be reflexes. Thus, a person sees an object which excites in him emotions of fear, or hears a suggestion which excites an idea, and which in turn excites the desire to cry out. In the former case we trace the afferent impulse along the optic nerves to the part of the brain concerned in sensation and ideation, and that process of linking the two, which is called perception. From these higher centres efferent impulses start down to the facial or other muscles, and the expression of fear is seen upon the countenance.

In the second case the process is a similar one. The afferent impulses give rise to a sensation which links itself to the previously impressed sensations (now become ideas), and a train of thought is aroused. After travelling through this ill-understood nexus between the afferent and efferent impulses, the latter excite the organs of speech.

In these various processes there is normally almost always a consciousness of the changes that are going on. The changes include sensation, perception, ideation, and what is known as volition.

Again, here, as in the second class of reflexes, the afferent impulse need not be constantly acting. It may start the machinery of ideation, which will then continue to act and send out more or less of expressive efferent impulses. Thus, a single frightful sight may give rise to prolonged feelings of terror, which in turn are expressed through various efferent channels for a long while.

We may represent this as a reflex diagramatically, as you see here.

Now, in the *first class* of reflexes consciousness and volition never enter.

In the *second class*, consciousness and volition may attend the inception of the process, but not necessarily, or generally, the rest of it.

In the *third class*, consciousness is always, in normal conditions, present, and acts of volition generally modify the play of afferent and efferent impulses.

The reflex character of the afferent and efferent impulses in the second and third class is, normally, obscured by these acts of volition. We shall see, however, that in the phenomena of trance, volition is taken away entirely, and if there is any consciousness, it is dim, and, so to speak, abnormal; so that the three reflexes described underlie the whole of the subject's mentality.

There is another physiological point which I wish to bring out.

The nervous system is a mechanism for liberating, and at the same time co-ordinating and regulating the various special energies or functions of the body. That it may do this more perfectly, and perhaps for other reasons, the brain, with its highly complicated powers, is developed. Now, this nervous system seems capable of bringing into activity (or making kinetic) a certain amount of energy, which is normally distributed throughout the nervous system, more or less equally. Thus, it can at once move muscles, and can keep all the special senses and the mind itself moderatively active. We can walk about, can see, hear, feel, and think at about the same moment. But it cannot make any of the special functions of the body particularly active, it cannot liberate nervous energy largely in one particular direction without the other parts suffering. While watching intently, we cannot feel, or taste, or hear with any great degree of perfection. While reflecting deeply, the special senses are somewhat dulled. If the nervous system is busy in sending out powerful or delicately adjusted motor impulses, its other duties are somewhat neglected. I am only expressing, in physiological language, the very commonplace fact that we can only do one thing well at a time. And furthermore, that we have the power, by exercise of our will, of directing the nervous energies almost exclusively in one or two directions. That is to say, we have the power of concentrating our attention.

Now, this mobility, so to speak, of our nervous or mental energies, this capacity of being turned into one channel and acting very powerfully there, is most conspicuously brought out in the phenomena of trance. It is a leading characteristic of the state, as was first shown by Dr. G. M. Beard.

I think that if these preliminary explanations are obscure, an exhibition of the phenomena in the patients here will soon make my meaning clear.

This young man is a very susceptible case, and I can put him into the trance state in various ways. The method most approved by professional mesmerists is to have the person experimented on close the eyes. You then put your hand upon the forehead and make gentle passes along it. At the same time you talk to the patient in a confident tone, assuring him that, in a few moments, he will not be able to open his eyes. After five or six minutes of such manipulation, you tell him positively that after you have counted a certain number he cannot open his eyes. If the patient is susceptible, it will be found, as you see in this case, that he cannot raise the lids, no matter how hard he tries.

The patient is now in a trance, and we can manipulate him as we wish.

We will begin with the simplest exhibitions of the state. The subject sits here with eyes closed and head drooping. He looks very much like a person who is in a deep sleep. His hands drop when I raise them; his pupils react; if I irritate his skin quite sharply, he draws his hand away. But his condition is really very different from that of sleep, as we shall soon discover.

In the *first place*, you will see that the simple spinal reflexes are much less easily brought out than in sleep. In the lighter stages of sleep these simple reflexes are generally somewhat exalted. They are hardly ever so dulled as is found in trance subjects.

Then, again, if any of you should try to wake him up by the ordinary methods, you would be unsuccessful. You see that I can push him, shake him, call to him to wake up, and use all the means generally employed, even that of pinching and pricking, yet he does not rouse at all. On the other hand, if I simply snap my finger and call "All right," he is awake in an instant. Snapping the fingers is not

the only way by which these trance subjects can be roused, however. They respond, ordinarily, when not too deeply entranced, to whatever form of awakening stimulus they have been accustomed to. You might fire a gun at the side of a hypnotized subject without disturbing him. Yet a breath of air upon his face would dehypnotize him, if that method had been usually employed. Here, then, is a *second difference* between the sleeping and the trance state.

A third and less notable characteristic is that, despite his having been apparently in profound unconsciousness, the moment he is aroused, he is, as you can see, perfectly wide awake, having none of the drowsiness that attends the awakening from ordinary deep sleep.

I will now hypnotize him again, and show a *fourth* and much more remarkable peculiarity of his condition. The subject sits here with eyes closed and apparently insensible to external surroundings. But his mind is in a most curiously abnormal condition. His will, or capacity for spontaneous action, in the first place, is entirely suspended. If left alone he would sit here for hours. The crash of worlds would not arouse him, unless that had been the customary dehypnotizing agent. He would finally pass into a genuine sleep, from which he would after a time awake. But there is something more than a suspension of his volition here. My own will has in a manner taken the place of his. Whatever I will or suggest to him to do, he does with as much certainty as if his mind were my own. But, still further, in whatever direction I turn his mind, in that direction his whole mental energies are concentrated. He not only responds to every suggestion or order of mine, but his whole mental powers are fixed upon that suggestion or command.

Thus I tell him now that he can open his eyes. He is able to do so, though he could not before. I hold out my hand and tell him to strike out hard at it, but that he cannot hit it. You see that he strikes frantically at me, but misses every time. I tell him that his right arm is getting rigid. His whole mind concentrates itself on this idea that it is rigid, and you see how perfectly stiff it has become. I stroke one side of his body and assure him that it will be perfectly numb and insensible. I now pinch it and prick it as violently as possible, but he makes no response. I might cut or burn it with the same result. Here the perverted mental energies act in some new way. Afferent impulses are prevented from rising into consciousness, and no pain is felt. The mechanism of this is unknown. It is a phenomenon of which we hardly have an analogue in the normal state. It is hard to understand how any concentration of the mental powers can directly abolish sensation. We know, however, that the brain possesses certain inhibitory powers which help to control and regulate the nervous system. We must suppose that some of these inhibitory activities are called out in the trance state.

There are still other phenomena:

I tell him that he has a frightful pain in his stomach, and you see by his expression of agony that he surely thinks he has a colic. I tell him that he is getting stiff all over, and he straightens up like a frog under strychnine. I place him with heels upon one chair and occiput on another, and you see that he holds himself there perfectly well, even when some weight is on his abdomen. It is doubtful if he has the physical power to do this when in his normal condition.

In various ways I can also pervert or exalt his special senses. Thus, I have some colored worsteds here. I tell him that I want him to sort them out, putting like shades with like. At the same time I impress on him the fact that he will surely mix the colors. You can see what mistakes he is making. It so happens that in this case he is making much such mistakes as a color-blind person would; that is, he is mixing the drabs, browns, and greens together. These subjects are not generally color-blind, however, in the same way that persons having congenital color-blindness are: the latter mix only certain colors. But these patients mix any, without special rule.

By tests with large and small types, we can sometimes show that the acuity of vision is increased. And by telling this patient that he was perfectly blind, he would grope around the room with every evidence of having no sense of vision whatever. More delicate tests would prove that sight was greatly dimmed, or nearly abolished. Among a very few exceptionally sensitive trance patients there exists apparently the power of exalting the vision in a most extraordinary way. Not long ago, Dr. G. M. Beard, Dr. W. J. Morton, and myself, tested one of these cases. The subject, a woman of thirty-five, was hypnotized by her husband, who was the only other person in the room besides the patient and the physicians. Her eyes were closed and bandaged with four handkerchiefs and a strap. The husband's eyes were also bandaged, and he was placed at the other end of the room. The woman then read a number of cards, that were handed her, told colors, etc. A similar case has been experimented upon by Dr. E. S. Bates, of this city. I do not dwell upon these phenomena, however, because they are of the kind that few can believe in until they have seen them themselves.

As we can in this subject pervert, exalt, or abolish the sense of vision, so we can the other senses. You see how eagerly he snuffs up this mixture and calls it cologne. It is really valerian. On the other hand, when I present this bottle which I assure him is disgusting, he turns away his head, although it is really cologne. In the same way I make him smack his lips over a mouthful of quinine, and spit out an excellent quality of sugar. What is still more curious, I can make him appreciate the bitterness of quinine on one side of his tongue, while he thinks it sugar when I place it on the other.

There is another set of phenomena connected with the higher nervous centres which I now wish to show you. They illustrate the same fact that the patient's mental equilibrium is disturbed, and that by my suggestions I can turn all the energies of his mind in whatever direction I choose. I stand this patient beside me and tell him to look at the beautiful angels that are hovering about in the upper corner of the room. You see how rapt his gaze has become, and how he wears an expression of ecstasy which no actor could assume so perfectly. If I tell him that they are gone and that a horrible fiend is perched up there, the change in his features shows how completely his imagination responds to my suggestion. And you notice that in this, as in the other phenomena, it is not alone that the mind is directed entirely on one subject, but it is concentrated there with an intensity which no normal volition or external stimulus could produce. This boy now sees some monstrous fiend; he sees nothing else, and it is more real and appalling than any actual monster could be. If I should tell him that it is coming at him and has struck him dead he would fall down al-

most lifeless. The experiment is a little dangerous, so I tell him that the object is gone, snap my fingers and rouse him from the trance. He looks around as you see, and wonders what he has been doing.

These patients sometimes have a vague consciousness of what has been occurring, but oftener remember nothing at all.

I take the other young man now, and having hypnotized him, I tell him that he is a temperance orator; that he has an audience of depraved and, perhaps, irreclaimable drunkards before him, and beg him to talk to them. He thinks now that these are really the conditions, and he talks to you with a force and earnestness which I am sure is not at all called for. If I press on the back of his neck, over the seventh cervical vertebra, you see that he stops speaking, though his lips move. He is aphonic. If I press upon the side of his face, just below the ear, he begins to speak again.

These are most curious reflex effects, which it is not very easy to explain. It is probably a fact that in all trance-speakers there is some point upon irritation of which aphonia may be produced. And there are other points upon excitation of which the speech will be resumed. The special point differs probably according to the training of the subject or the suggestions made to him. Sometimes waving the hand before the face stops the speech, while waving in the contrary direction sets it going again.

It may be that these phenomena, though apparently very striking, are, after all, due chiefly to suggestion. Experiments seem to show that we can by suggestion exalt the imagination and emotional faculties much more than the intellectual powers. I can make this person imagine anything, and that with the greatest intensity; and I can make him feel any emotion, from the highest ecstasy to the most harrowing remorse. But any complex intellectual act I cannot incite him to, and even in performing simple intellectual feats he will not show much greater quickness. Thus, I can make him do simple arithmetical problems with more readiness than in his normal state. But the mathematical powers cannot be very much exalted. He cannot follow out a complex series of actions unless they belong to a class with which he is familiar and has habitually performed.

I can tell him that this stick here is money and that he must steal it and run. He will do so, and will run until he drops, but will show no further intelligence. I could tell him that my friend Dr. F. here is a murderer who has taken away thousands of lives, and ought to be killed himself. If I should give him a pistol and point out the man for him to shoot, he would do as I directed, and murder a most promising young physician; but his intelligence and his actions would end there.

In fact, as you have now seen, these subjects, when hypnotized, are reduced to the condition of machines which go when the proper impulse is given, and only then.

You can now see, also, the application of the facts regarding the different reflexes of the nervous system which I have described to you at first. Persons in trance are governed in their actions by these reflexes alone. The "power to begin or forbear" is entirely lost. Certain suggestions may arouse a tolerably long or complicated series of familiar physical or mental acts. But the suggestion is needed first, therefore the action is reflex. As you see, also, it is not the lowest and simplest of the reflexes, that is, those of the spinal cord, which are especially affected, but rather the higher ones that are brought out in acquired automatic movements, and, still more frequently, it is those which involve the activity of the cortical areas.

You must not think, however, that the mind is always intensely concentrated in one direction or another. A concentration of the attention seems to be necessary at the beginning, in order to induce the state in ordinary mesmeric trance, and Preyer has brought forward the improbable theory that such concentration produces fatigue-products which are the causes of the trance state. There is mental concentration in most of the phenomena of the different forms of trance, but it does not seem to underlie them all. And, of course, our saying that the mental energies are thrown powerfully in this or that direction is not a physiological, but a psychological explanation. We cannot yet, however, go any deeper. All the hypotheses in regard to peculiar states of the circulation, nutrition, etc., are as yet vague, unsubstantiated and useless. The concentration theory as announced and elucidated by Dr. Beard gives us a clearer understanding, at least, of the phenomena.

The suspension of spontaneity or volition, and the uniform response to outside or (as in somnambulism) inside suggestions, is the side of the subject particularly dwelt upon by Dr. W. A. Hammond, and on account of this perfect *en rapport* of subjects, he has called the condition syggignostic (συγγιγνωσκω, to agree with). It is better, however, to apply a name which conveys no theory.

It may have struck you that some of the phenomena which I have shown you resemble very much those of ordinary absent-mindedness. Ordinary absent-mindedness differs from trance chiefly in degree. In the matter of the responsiveness to outside suggestion and the suspension of the will the difference between hypnotism and absent-mindedness is most apparent.

The per cent. of persons who can be put into the trance state, as these young men are, is not known, because there have not yet been enough experiments made with all classes of people. Among German students the per cent. is said to be about one in twelve. Professional mesmerists in America say that they find one in six or eight of their audience susceptible. C. Richet says that every woman and almost every man is susceptible; but such a statement is hypothetical and unscientific.

Dr. G. M. Beard, who, more than any other physician in this country, has added to our knowledge of this subject, considers the various conditions known as catalepsy, ecstasy, katatonia, double-consciousness to be forms of trance. In some cases, it is probable that the special disease is not a form of trance but that trance is one of the symptoms of the morbid condition.

If we collect all the different conditions in man and other animals which seem to be varieties of trance, we can trace a gradual change from absent-mindedness and slight trancoidal states to well-marked trance of the kind I have shown you here, and from these to the still more strongly marked conditions of catalepsy, katatonia, and double-consciousness. There will appear to be no sharply drawn line between the normal and abnormal state. It will be evident, however, on studying individual cases of mesmeric trance, that there is in them a sharply drawn line between the trance and the normal condition. A person is either in a trance or he is not. He may be in it more or less deeply. When the latter is the case other parts of the brain work and modify the action of that particular part which is most exalted. The special exaltation is often not so complete that other thoughts, feelings, or muscular movements than the dominant ones, do not creep in.

As to the genuineness of the condition in question I have nothing to say here, as this is not the place to test it. Most of the phenomena which I have shown you might, perhaps, be simulated. You will take my word that they are not. The reality of the condition known as trance is as fully established as that of insanity. It is not so easy to give a scientific demonstration that any individual case is not shamming. Still, sometimes it will be possible to do this by means of what are known as the equilibrium-tests, the tests for muscular hyperexcitability, the eye-test, etc.

The practical bearing of this newly acquired knowledge of trance is not a subject on which I can enter now.

As regards the relation of the phenomena to physiology, it is too early to say what light they can throw on it. The facts of trance themselves, however, form a contribution to physiology or psychophysiology of extraordinary interest. I have shown you only some of the simpler phenomena of the condition, but you will admit that they reveal capacities of our nervous system which a study of it, in its normal condition, would never lead us to suspect. Robbing the mind, as it does, of its spontaneity, it becomes a simpler thing to study, and no doubt some additional light may be gained regarding its workings, especially in regard to the reception of outside impressions, the acquirement of experience, and the laws of association. The experiment that I showed you in which vertigo was abolished, upsets a current theory in regard to the functions of the semicircular canals in the preservation of the equilibrium.

In conclusion, what I have said may be summarized somewhat as follows:

*Mesmeric* trance is an abnormal condition of the nervous system characterized by the following phenomena:

1. Consciousness is perverted or suspended.
2. Volition is suspended.
3. Suggestions from the operator take the place of the will. The subjects are automatic; their actions reflex.
4. There is generally an intense concentration of the mental powers in one direction, with more or less consequent suspension in other directions.
5. Or there may be simply a suspension or inhibition of certain special energies, not due to any concentration elsewhere.
6. With regard to trance in general, assuming it to include the conditions mesmeric trance, somnambulism, double consciousness, catalepsy, katatonia, etc., we may add this:

*a.* The four especial characteristics of mesmeric trance: loss of spontaneity, concentration, inhibition or suspension, syggignosticism, do not always appear together or with equal prominence in other forms of trance. We may, therefore, have trancoidal states, and conditions shading into trance or into which trance enters. Mesmeric trance itself, however, is a sharply defined condition.

*b.* In all trance states inhibition or suspension of function is a more uniform characteristic than concentration. It is impossible to explain all the suspensions of function (as Beard does) by concentration.

If one wished to formulate a theory of trance, he might say: *In trance states the special co-ordinating agencies of the nervous system, will and consciousness, are put in abeyance. The remaining nervous energies are left in an unstable equilibrium, and may be concentrated, inhibited, perverted, etc., in various ways and with the production of various phenomena of trance.*

## CHRONIC CATARRHAL PYELITIS.

A Lecture Delivered in the Woman's Medical College, Chicago.

By ISAAC N. DANFORTH, M.D.,

PROFESSOR OF PATHOLOGY.

Ladies: I invite your attention this afternoon to the subject of chronic catarrhal pyelitis—a form of disease which is not very uncommon, but which is rarely recognized in its earlier stages. I am anxious that you should thoroughly understand this disease, because it is vastly important that it be diagnosticated while it is yet curable, for, if it is not, serious results are sure to follow. By catarrhal pyelitis I mean a catarrhal inflammation of the mucous membrane of that portion of the kidney which is known as the "pelvis," and it is important for you to understand that the pelvis is a structure quite distinct physiologically and pathologically from the kidney itself. It is a dense, membranous sac, lined by mucous membrane, and implanted upon the kidney proper. It serves only a mechanical purpose; it is, in fact, simply a part of that system of conducting-tubes which are attached to the kidney proper, and are mechanical adjuncts thereof. So, when you study the diseases of the *pelvis* of the kidney, you do not study the diseases of the kidney proper. It is, of course, true that a morbid process commencing in the pelvis may extend to the true renal tissue, just as a morbid process starting in the bronchial tubes may ultimately involve the true pulmonary tissue; but experience teaches us that the pelvis may be for a long time in a diseased condition without involving the renal tissue, and furthermore, that the morbid process is rather more likely to travel downward than upward; that the ureter, bladder, and urethra are more likely to be implicated than the tubuli uriniferi. The subject naturally divides itself into its morbid anatomy, its symptoms, its causes, its prognosis, and its treatment.

The morbid anatomy of catarrhal pyelitis is very simple and very easily described; and, I may add, is quite seldom studied, since patients never die of this disease alone, and when death is caused by some intercurrent disease, the attention is fixed upon the lesion it occasions. But, if catarrhal pyelitis be present, you will find the pelvic mucous membrane reddened and congested, sometimes quite intensely, sometimes only moderately. Here and there, more especially in the infundibula, you will find enlarged and tortuous groups of vessels; you will also find a considerable quantity of thick, glairy mucus—sometimes as much as a fluid drachm—and it will be mixed with a quantity of fine, gritty deposit, which consists of the precipitated urinary salts. It would seem that this abnormal mucus acts as a sort of filter, so that the saline constituents of the urine are strained off during the transit of the urine through the pelvis. And this brief description comprises the morbid anatomy of catarrhal pyelitis; it is so simple, and presents such feeble indications of abnormality, that many cases are passed by as healthy by pathological anatomists of limited experience.

The symptoms of this disease are not very pronounced; it may exist for months or even years and not be recognized—that is, if it maintains its simple catarrhal form. The patient is usually called upon to urinate a little oftener than usual, but the quantity of urine is not at all, or, at least, very slightly increased; the unpractised observer will scarcely notice any change in the appearance of the urine.

There will be a slight, or possibly, somewhat severe pain in the back over the region of the affected kidney. This pain will be quite constant, and will be increased by fatigue, violent exercise, intemperance, and, in fact, by almost any form of wearying excess. These lumbar pains are likely to be taken for rheumatism, and I may add that the treatment adopted for rheumatism is more than likely to aggravate the renal trouble. There will scarcely ever be tenderness over the kidney, and there will be no constitutional symptoms which can be referred to the kidney as their efficient cause. But the diagnosis can usually be established absolutely by an examination of the urine. In this, as in all other cases, the microscopic and chemical study of the urine is almost certain to reveal what is going on in the urinary organs.

Request the patient to bring you a four-ounce bottle of the morning urine; let it stand six or eight hours, and then proceed to study the sediment which covers the bottom of the bottle. But, in the first place, let me call your attention to what I may term the pre-microscopic stage of this examination and the lesson it teaches. You will, of course, use a pipette for the purpose of lifting a drop or two of the precipitate, that it may be placed upon a glass slip for microscopic examination. Now, when you raise the pipette with its upper end tightly closed by the finger, you will observe that a long string of clear, glairy, tenacious mucus will follow, as though it was attached to the pipette; it really is connected with the mucus which has risen up into the pipette, and is drawn up by this. This sign, when present, establishes this fact—that you have catarrhal inflammation of *something;* of course, it does not indicate its location, but it does establish its type. If the deposit consisted of pus instead of mucus, it would "break off short," so to speak; that is, the long string of sticky mucus would not cling to the end of the pipette. Of course, I need hardly tell the members of this class that the distinction I attempt to draw between catarrhal and suppurative inflammation is arbitrary and theoretical rather than natural and real, because in our studies in pathology we have long ago learned that we cannot exactly say where mucus-formation ends and pus-formation begins; that the two *apparent* processes are really but steps in one process. Nevertheless, there is a clinical and therapeutical—and, indeed, I may add a prognostic—advantage in maintaining this arbitrary distinction, as you will learn when I come to speak of suppurative pyelitis.

Now, we must proceed to the microscopical examination of the precipitate, and if the case be one of catarrhal pyelitis we shall have that fact clearly revealed by the presence of the following microscopic objects: 1. Mucous corpuscles, probably in great numbers, and varying considerably in size. 2. Epithelial cells from the pelvis of the kidney, both singly and in patches or flakes. These cells will be recognized at once by the fact that they are much smaller than those which line the bladder, although they resemble them as regards form and type. You will generally find large patches of them still adherent by their borders, and you will also find large numbers floating about which have become separated. 3. There will almost always be present, here and there, a short cylindrical aggregation of cells, derived from the papillary extremities of the tubuli recti, that is, that portion of the papilla which projects downward into the pelvis, and therefore becomes more or less subject to the pathological conditions affecting the pelvis. When these three microscopical objects are present in any considerable numbers and with anything like permanency, you may consider the diagnosis of catarrhal pyelitis as absolutely established. Of course, other objects will be seen, as urinary salts, cystic epithelium, etc., but they have no special diagnostic relation to pyelitis.

Unless the affection has proceeded beyond the catarrhal stage, the urine will not contain albumen, but it will contain a large excess of mucus, which fact will be proven by the clear, but exceedingly tenacious character of the sediment, and the appropriate chemical test for mucus, namely, acetic acid or alcohol, either of which causes coagulation of the mucus, and its precipitation in a white, semi-opaque mass. The causes of catarrhal pyelitis are about as numerous as the cases. Persons who are habitually and rapidly climbing stairs, as hotel-porters and letter-carriers; persons who stand a great deal in constrained positions, as railway postal clerks; persons who travel much or very constantly by rail, as conductors and express messengers, are peculiarly liable to this disease. Severe muscular exertion which involves the muscles of the back and abdomen and of the lower extremities may be mentioned as an efficient cause. So also oxaluria and phosphuria, when excessive and permanent, are liable to bring on pyelitis, probably on account of the irritating character of the crystals precipitated in the pelvis.

The prognosis of catarrhal pyelitis is generally favorable; nevertheless, it is by no means an easy or rapid disease to cure. Nor is it free from danger as regards its ultimate consequences, especially if it be neglected for any considerable length of time by the patient.

Every case of uncomplicated catarrhal pyelitis will be followed by one of these three results:

*a.* Recovery after a prolonged course of treatment. This result ought always to be reached in young or middle-aged patients of good habits, if they are free from any hereditary constitutional vice or weakness, and if they will submit to the proper treatment and regimen for a sufficient length of time.

*b.* A second group of cases will pass inevitably into the suppurative form. Patients beyond middle age or of intemperate habits, patients who are compelled to labor hard and constantly for their daily bread, patients who are heirs to some form of transmissible disease, are liable to suffer the misfortune of having a simple catarrhal pyelitis degenerate into the more formidable suppurative type, with all its attendant and irremediable evils.

Still another, although comparatively inconsiderable group of cases, will pass along, and become true Bright's disease, and this is especially liable to happen to habitually intemperate patients. At the same time, it is an inexplicable fact that pyelitis may exist for a very long time without implicating the tubular structure of the kidney. Suppurative disease with sacculated kidney is much more likely to follow than Bright's disease. But now and then a case occurs in which, despite all treatment, the inflammation will slowly travel up the tubuli, until the critical portion is reached, and then, of course, we have a true case of Bright's disease in addition to the pelvic lesion. As I have considerable to say concerning the treatment of pyelitis and the early stages of Bright's disease, I will make it the subject of my next lecture.

# Original Communications.

## A CASE OF
## COMPLETE INVERSION OF THE UTERUS
### Occurring Immediately after the Second Stage of Parturition.

By P. H. REICHE, M.D.,
WAVERLY, BALTIMORE CO., MARYLAND.

(Reported to Baltimore Academy of Medicine.)

I know of no emergency, nor can I conceive of any case in obstetrical practice that will cause more mental perplexity and worry to the accoucheur, and at the same time is more hazardous to the lying-in woman, than complete inversion of the uterus, following close upon the delivery of the child. This fearful accident is happily of very rare occurrence, and it is perhaps owing to its infrequency that the contributing causes carry with them some suspicion of bad management; yet, as the report of my case will show, it is at least sometimes the result of conditions over which the accoucheur, however skilful, can have no control. In consulting different authors in regard to inversion of the uterus, I find that this accident is almost always considered as a consequence of parturition, but the causes generally assigned by them as operating to produce it are so vague and undefined, that one would almost doubt the possibility of its spontaneous occurrence. In this case, however, it will be shown that there was no mechanical or exciting cause to produce it, that it was a purely spontaneous inversion, and that the power to be inverted was inherent in the uterus, being the result (as Barnes, in his "Obstetrical Operations," has suggested) of paralysis of the placental site, the existence of which was clearly made out at the time of its occurrence and the continuance of which was noticed for several days subsequent to its reduction.

Before entering upon a detailed report of this case, it is my desire to call the attention of the Academy to the previous history of this lady, which is indeed as exceptional and rare as the case now under consideration. She has had three consecutive labors at full-term, all with breech-presentations, besides one miscarriage of about two months, each one of which had its peculiar complications. She is now about twenty-eight years of age, rather below the medium height, of a slight form but healthy appearance. Was married January 13, 1875. Her first confinement, from the usual computation, was expected about the 20th of March, 1876. During the above period she enjoyed exceptionably good health. On that date she had quite a profuse hemorrhage from the uterus, without the least pain. When I arrived I made a vaginal examination, but could discover nothing to indicate a near approach to labor, the hemorrhage had also ceased, I therefore did nothing, but ordered absolute rest. In a day or two she was again on her feet attending to her household affairs, which she continued to do for about two weeks longer. During all this time she was not made conscious of any movements of the fœtus.

I was again called on April 3d. I found that strong contractions and severe labor-pains had set in; diagnosed breech-presentation and death of the fœtus. Her labor lasted about twelve hours. The child, a little larger than the ordinary size, yet well formed, was born without much assistance on my part, and the placenta followed the expulsion of the head immediately. Exfoliation of the outer layer of the skin was visible all over its body. The placenta was very dark, and looked as though it had been detached from the uterus for some time, yet there was no disagreeable odor about the entire contents. From all of which I concluded that death of the fœtus took place about two weeks prior to its delivery, *e.g.*, on March 20th, this being the day when such a profuse hemorrhage took place. After delivery the uterus contracted well, without any hemorrhage. For two or three days she was getting along very well, the lochia was abundant, yet natural; on the fourth day the temperature was decidedly feverish, she became restless, and complained of pain on her left buttock; the following day she had high fever, with great thirst, and complained of nothing but her left hip. I could notice nothing abnormal about the uterus nor the lochia. I examined her hip, saw only some slight redness, but not much tenderness. On the seventh day she had high fever, great tenderness over the gluteal region—could feel fluctuation of pus deep beneath these muscles. I made a deep and free incision, when more than a pint of offensive pus was liberated. Her suffering now ceased, as well as her restlessness. I inserted a tent for drainage, and left her until the next day, when her fever had disappeared, but the discharge of pus had been very profuse. At this time I used a probe to discover the extent of this abscess and its probable origin, and found that pus had burrowed to a considerable extent under the gluteii muscles, but found nothing to indicate its origin. A liberal diet with quinia and tincture of chloride of iron were the principal agents relied upon to sustain her strength. For two days more I continued my tents to encourage the free discharge of pus. She was feeling very comfortable, and had no fever. On the eleventh day Dr. Allan P. Smith examined the abscess, using a long uterine probe, and after considerable exploration it passed easily through the sacro-sciatic notch and then over the promontory of the sacrum in the direction of the spine to within half an inch of the entire length of the probe (which was more than twelve inches) before any expression of pain was elicited from the patient. At first we concluded that the formation of pus was probably due to caries of the spine, yet the termination of this case points directly to psoas abscess. At this time a drainage-tube was introduced, which she wore for a period of three months, through which an enormous quantity of pus was discharged, and after gradual expulsion of the tube the opening was allowed to heal. Her health and strength now improved rapidly, and her recovery was perfect. Menstruation made its appearance about two months after delivery, and continued perfectly regular and normal until February, 1877, at which time her second pregnancy began. During the whole term of this gestation she enjoyed excellent health.

On November 8, 1877, about two hundred and eighty days from the cessation of her last menstruation, her second labor began early in the morning and continued all day, and when I was called in the evening found the breech well engaged in superior strait, and in about two or three hours delivery was completed, the child, however, having died from asphyxia before the head could be delivered. Resuscitation proved ineffectual. Waiting a few minutes for contractions sufficient to expel the after-

birth, I very soon found myself compelled to interfere in effecting its delivery, because profuse gushes of blood accompanied the occurrence of each pain and contraction, which were very severe and frequent, and the effect of which was plainly visible at the pulse as well as by the blanched appearance of the face. I determined at once to introduce my hand into the uterus to remove the placenta, but in making this effort found the uterus and cervix so firmly contracted around the placental mass that I was unable to introduce more than my index finger, but with this I was enabled to diagnose morbid adhesions throughout its entire extent. I administered chloroform by inhalation until she was thoroughly anæsthetized, and then made another attempt. I succeeded, but not without some force, in introducing my hand into the uterus; but from the firm adhesions and strong uterine contractions, I was unsuccessful in detaching the placenta. Hemorrhage was not continuous, but at intervals quite profuse. Being extremely anxious, I made repeated efforts throughout the night, each one of which proved futile, and in all of which I had not made the slightest impression. I remained at the bedside throughout the night, administering stimulants frequently and at times adding ergot. When morning dawned, her pains were still frequent, but hemorrhage had almost ceased, owing, I judge, to her anæmic condition, there being not much more blood to lose. Uterus was as firmly contracted then as some ten hours ago. I then called on Dr. John Morris for his advice and assistance, to which he promptly responded. On his arrival we placed the patient under chloroform, and Dr. Morris made use of his best efforts to detatch and deliver the placenta; but after a very tiresome manipulation for nearly half an hour, decided that it could not be removed at this time without serious consequences to the woman; we therefore concluded to yield it to nature, and combat any untoward symptoms that might supervene. Hot-water injections were used repeatedly, without doing more than bringing away a few clots of blood. On the second day the discharges became very fetid; she complained of nausea, but had no vomitting and no hemorrhage, yet high temperature and pulse weak and frequent, all of which lasted for three days longer. Quinia and iron were tolerated by the stomach remarkably well. Carbolized hot-water injections were used frequently. Each disagreeable symptom became more intensified day after day, until the morning of the fifth day, when the placenta, in an extremely putrid condition, was discharged in four nearly equal segments. On examination I was still surprised to find the cervix, as well as the entire uterus, so firmly contracted that I could with difficulty only insinuate my index finger. I continued with my medicines, as well as vaginal injections, and the patient improved rapidly, and in about three or four weeks was on her feet again. She became quite strong and looked well.

Her menstruation again made its appearance in the latter part of February, 1878, and was in every respect normal. The next month passed without the appearance of her catamenia. Shortly afterward she had reasons to believe herself enciente. On April 30th, just two months from the cessation of her menses, she was taken with severe pains and a free discharge of blood. On my arrival, some hours afterward, found the product of conception, with secundines, in the cervix, which I had not much difficulty in removing, after which hemorrhage was only trifling and the uterus well contracted. I left her feeling very comfortable. About two hours afterward hemorrhage came on rather profuse, when I was again sent for, but, being professionally engaged, did not arrive until six hours afterward. During this time she had lost a great deal of blood, and I found her in an exhausted condition, with quite a free discharge of blood. I administered chloroform until anæsthesia was complete. I then introduced one finger into the uterus, with which I could detect a small, roughened elevation at the fundus, which I easily detached, and which proved to be of placental structure, scarcely larger than a nickel cent. Hemorrhage ceased immediately and did not recur again. It has been a question in my mind ever since whether the retention of so small a piece of placenta was the cause of so much flooding, or whether the same was caused by atony or inertia of the uterus itself, and whether or not hemorrhage ceased because of its removal, or was stopped by my finger as an irritating cause to produce contraction.

Her recovery was very much more tedious than on the other occasions. She had no fever at any time, yet general anasarca set in about a week afterward, and continued for nearly two months before she could be considered convalescent, but after this time her improvement was again rapid, and she regained her strength, and felt as well as she ever had done. For more than nineteen months she enjoyed good health, was never troubled by any discharge from the uterus or vagina, and during all this time did not even menstruate. I was several times consulted by her, whether I thought she would ever be unwell again, and was half convinced in my mind that she never would, yet on the 30th November, 1879, she noticed a slight show, lasting only one day, the first she had seen since her miscarriage in April, 1878. In the latter part of March, 1880, she thought herself pregnant, having experienced quickening, and, reckoning in the usual way, her confinement was expected about the first of September. Her health and appearance continued excellent during the whole term of pregnancy.

I now come to report the case under consideration. I was called in the early morning of August 15, 1880, just two hundred and fifty-eight days since her slight menstrual show. Labor pains had commenced the night previous, and had made sufficient progress for me to diagnose breech-presentation. Everything being favorable and normal, I thought I had time to leave her for some hours. When I returned at twelve M., found breech well engaged in superior strait, with expulsion pains in rapid succession. There was no occasion for any interference on my part, and in about one hour the breech and legs were expelled. But now the pains almost ceased, at least they only appeared at long intervals. Being extremely anxious about the life of the child, I made ordinary traction to facilitate its delivery, but in doing so found the umbilical cord on a tight stretch, impeding its progress very much, and in making repeated traction on the cord, which was still pulsating, I had to be very gentle, for fear of rupture on account of its unusual thinness and friableness. Pains had now ceased altogether, and nothing but involuntary muscular strainings assisted me in the delivery of the shoulders and head. The child was apparently dead, but after some prolonged effort, resuscitation proved successful. Before severing the cord, I introduced my hand into the vagina, and made a rather hasty examination, to ascertain the condition of the mother. Found a tumor, which I took to be the placenta, projecting through the os uteri, and

thought that the same had been separated from the uterus, and had partially entered the vagina, but had been impeded in its progress by a sudden and strong contraction of the cervix and os. There being no hemorrhage, I assured the mother that this time she need not fear any complications. I am free to admit that, had I recognized this tumor to be, as it undoubtedly was, a partial inversion of the uterus, I am sure I could have easily returned it, which would have prevented the formidable accident that presently occurred. I now tied and cut the cord, and handed the child to the nurse. The mother had had but one sharp pain since the delivery of the child. She had no hemorrhage, and expressed herself as feeling very well. I then took hold of the cord, and only made traction sufficient to guide me to the body of the placenta, and before I could place my other hand in position over her abdomen, she cried out that she had an awful pain, and at the same time pressed both of her hands in the lumbar regions, and with one quick, violent straining effort, protruded the uterus between her thighs, completely inverted, with placenta attached. Appreciating at once the enormity of the accident, I had recourse to ocular examination, and then saw this bloody tumor between her thighs. The placenta for the most part was situated at the fundus and on the right lateral and anterior walls of the uterus, all morbidly adherent, excepting for about a space two inches square, under which and from which the blood was welling up continuously, to an alarming extent. Being anxious to avert all possible danger from hemorrhage, and being entirely unprepared to meet with such an accident, I was governed by the impulse of the moment, and determined at once to remove the placenta before endeavoring to reduce the inversion. In my attempt to detach the placenta I found more difficulty than I should have ever anticipated. For, in spite of being able to use both of my hands, and with my eyes to guide them, some portions of the placenta would rather tear than separate from their morbid adhesions to the walls of the uterus; indeed, I had to make several efforts to detach some small portions after the great body of the placenta was removed.

Without wishing to digress, I would merely ask, if such was the difficulty in this case, how much greater would the difficulty have been had no inversion taken place? and may we not sometimes meet with cases where just such morbid adhesions occur, that it may be almost next to impossible to be able to remove the placenta? After having detached the placenta, I noticed an entire change of form of the uterus, depending upon unequal contraction of its muscular fibres. The anterior wall, with the right lateral and part of the fundus, was completely paralyzed, comparatively yielding and soft, being easily indented by my fingers, while the posterior and left lateral walls, and part of the fundus, were hard and resisting, evincing thereby their great contractile efforts. The soft and yielding portions constituted the placental site. Up to this time there had been no constitutional disturbance, no vomiting, no clammy sweats, no alarming distress, in fact, nothing to indicate any very severe injury, as are the usual symptoms of acute inversion. She only complained of an excruciating pain along the left leg.

I now commenced my effort at reduction, pushing the uterus into the vagina with my right hand, and supporting the cervix through the abdomen with my left. I made continued pressure until the body, followed by my hand, passed through the cervix. But at this moment a state of collapse ensued, respiration seemed almost suspended, and dissolution seemed inevitable. I withdrew my hand, which was very soon followed by complete inversion, removed the pillow and bolster from under her head, and was about to practice artificial respiration had not the breathing been re-established. She called for water, but swallowed a large drink of brandy at my suggestion, which in a short time I had repeated, from the effects of which the heart's action became stronger. This state of collapse, no doubt, was in a great degree owing to the profound shock on the nervous system, and quite independent of the loss of blood she had sustained, because the hemorrhage, though excessive, was not as profuse as had been the case in her former accouchements. After reaction had fully set in, she expressed herself as being more comfortable. There was no undue hemorrhage, yet the inverted uterus was still in the vagina. Under these trying circumstances, being without any intelligent assistance, I felt myself unequal to the task before me, and sent for Prof. A. F. Erich, who, being professionally engaged at the time, did not arrive until a little after four o'clock. While waiting, I had to administer brandy repeatedly, and made another attempt, without chloroform, to reduce the inversion, but it gave her so much pain that I had to desist. At this time hemorrhage came on quite profusely, and I was only able to check it by swabbing the womb with a sponge soaked in a solution of subsulphate of iron and glycerine, and allowed the same, with two others saturated in the same solution, to remain in the vagina.

I am under great obligations to Dr. Erich for his promptness in responding to my urgent request, and also for his subsequent advice and assistance. At the time above mentioned Dr. Erich arrived, and brought with him Dr. Rohe, to administer the anæsthetic. Without wasting much time in deliberating, he prepared himself for the operation. After the patient was thoroughly under the influence of chloroform, he removed the sponges and some clotted blood, and then introduced his right hand into the vagina, grasped the body of the uterus, and with his left hand supported and dilatated the cervix through the abdominal walls, and returned that part which had been inverted last, until the entire uterus, with his hand following, had passed through the cervix. This manipulation lasted about ten minutes. He allowed his hand to be enclosed by the uterus, for the purpose of stimulating contraction, nearly half an hour, during which time I used the hypodermic syringe six times, injecting deep into the abdominal muscles about two drachms of fluid extract of ergot before any contractile effort of the uterus could be experienced. After this his hand was carefully withdrawn. The patient, still suffering from the combined effects of shock and loss of blood, was made comfortable with her head in a depending position, her pelvis and lower extremity being raised by raising the foot of the bedstead. The time had at last come for me to be able to leave her, and the sense of relief can be better imagined than described. I was absent about four hours, during which time she had had no hemorrhage, yet seemed very restless. I gave her a hypodermic injection of ten minims Magendie's solution of morphia, which had a very quieting effect in a few minutes.

I now left her for the night, in a condition as comfortable and cheerful as could be expected under the circumstances. Dr. Erich continued to visit the patient with me for several days, and I cannot but

acknowledge the deep interest he evinced in this case, as well as his many valuable suggestions as to treatment during our consultations.

August 16th.—She has passed a quiet night; lochia scarce; slight tympanitis; passed her urine without difficulty, pulse, 140; temperature, 101°. The anterior wall of the uterus, where the placenta had been attached, showed the same evidence of paralysis, being relaxed and quite flabby, and lying in the cervix. She had had some slight after-pains. Ordered vaginal injections of carbolized hot-water every six hours. Quinia and tincture of chloride of iron were given every four hours with concentrated liquid nourishment. At my evening visit found temperature, 102°; pulse, 150; lochia more abundant, great tenderness over abdomen with sick stomach. Gave hypodermic injection of twelve minims Magendie's solution.

August 17th.—Passed a comfortable night. Temperature, 101°; pulse, 120. Lochia very fetid. Os uteri dilated to admit two or three of my fingers, with the paralyzed anterior wall still pressing into the enlarged cervix. Abdomen very tympanitic, for which small doses of calomel were ordered every two hours, to be followed by an enema of turpentine and soapsuds the following morning. For the fetid lochia I ordered boracic acid suppositories, to be placed in the vagina every six hours, one of which, at the suggestion of Dr. Erich, I introduced into the uterus, which had the effect of rendering the discharges from vagina almost odorless by the next morning.

I have no desire to make this report unnecessarily long, by giving a detailed account from my notes for every day I visited her. I will, therefore, only mention the most prominent points of interest. For more than a week her average temperature remained at 101°, without any other febrile symptoms. Her pulse ranged from 110 to 120. Gastric disturbance and tympanitis disappeared in a few days. Her uterine discharges became quite natural after a continued use of boracic acid suppositories. Systemic treatment was conducted from day to day upon the expectant plan. She nursed her baby regularly, and had sufficient flow of milk for its nourishment. The uterus, however, remained for several days in a state of imperfect involution. Daily examinations per vaginam, revealed a continuance of paralysis of its anterior wall, which in a flabby state remained flexed into the cervix, while the rest of the organ seemed hard and resisting and well-contracted. This condition of the uterus lasted until August 27th, when I noticed that the paralyzed portion had regained its proper tone and the whole organ was in its natural position. Her general condition had also improved, her pulse was less frequent, and her temperature normal. Her convalescence was tedious, yet her recovery perfect.

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THE SPIDER'S WEB AS AN ANTIPERIODIC.—In the *Gaceta Medica*, of Sevilla, Sr. Oliva, from personal experience and from that of others in ninety-three published cases, concludes that the secretion of the spider is of therapeutic value in malarial fevers of quotidian and tertian type. Given in quantities of two grammes to adults and one gramme to children, two doses generally suffice to cut short the disease and prevent relapse. It is recommended on account of its tastelessness, but until further data are collected, is not to be administered in pernicious fever.

## DO THE AURICLES ACTIVELY CONTRACT?

BY G. A. HARMAN, M.D.,
LANCASTER, OHIO.

THIS is a question that has been answered in the affirmative from the time of Harvey, who said, "First of all, the auricles contract," by all writers upon the subject until now. Drs. Dalton, Flint, Foster, Gray, Loomis, in fact, all modern writers agree that they do. So universally is it accepted, that it appears iconoclastic to call the matter in question. But we think there are very grave reasons for doubting their contraction, if, indeed, they are not sufficient to prove that they do not.

By contraction we mean their active participation in the act. We freely admit that they contract, but claim that it is passive.

Our reasons for entertaining a belief contrary to that universally accepted are, first, anatomical, and second, mechanical.

*First.—a.* The auricles are composed chiefly of serous and fibrous tissue, and, unlike the ventricles, have very little muscular fibre, and it is muscular fibre only that is capable of active contraction.

We find the auricles have but two thin layers of muscular fibre, the outer of which is incomplete; and an incomplete circular muscle is powerless. Divide a sphincter muscle and its utility is destroyed; so, then, in the auricle, we have but one layer capable of exerting force, and that layer so thin that, compared with the labor to be performed, it seems to us incapable. The muscles of the auricles are not nearly so well developed as those of the ear, which in the human subject are only rudimentary.

If we descend the scale of animal life, we should doubtless, way down the line, find animals the construction of whose hearts demanded, and which do have well-developed auricular muscles. *b.* The auricles have only about two-thirds or three-fourths the capacity of the ventricles. *c.* The auriculo-ventricular openings, those of exit, have two or three times the area of the venous openings, those of entrance. *d.* The veins in neither auricle, with the exception of the vena cava ascendens, have valves which would seem to be necessary, if the auricles were intended to contract,

*Second.*—Mechanically, their contraction appears to be unnecessary, as the ventricles are able to perform the work of circulation, as will be shown. Indeed, experiments have already been made showing that the circulation can be carried on without their contraction.

A year or so ago, an article appeared in *The Monthly Abstract of the Medical Sciences*, relating the case of a horse, which died after a few hours' illness, the effect of an over drive. The post-mortem revealed ossification of both auricles. This ossification could not have been the result of the last illness. It being a slow process, must have existed for months, and possibly years. Before the drive the animal was in apparent good health, and, if healthy, with auricles that did not contract.

*a.* If the auricles contracted, they would exert force in every direction; the veins having no valves, the influx of blood through them would be arrested, if not made to regurgitate, producing constantly recurring temporary congestions of the lungs and brain. *b.* The influx by the veins being arrested by the contraction, the auricles could only discharge their contents, which, because of their less capacity,

would be insufficient to fill the ventricles, and the ventricles would fail to receive that natural stimulus to contraction, viz., distention, and inefficiency would result from their partial filling. *c.* If a hypodermic needle be thrust into the ventricle, the blood spurts up through it to a considerable height during the contraction; but if the needle be thrust into the auricle, the blood at no time more than wells up through it.

I now present my idea of the heart's action, as formed from a consideration of the anatomy of the heart, and the mechanical laws which govern it.

The ventricles contract, and their contents are expelled (during their contraction the auricles are being filled), then they dilate by their resiliency, like a rubber-ball, and vacuums would be produced but for the rush of blood from the auricles. expelled, not by auricular contraction, but by atmospheric pressure.

The capacity of the ventricles being so much in excess of that of the auricles, and the auriculo-ventricular openings (those of exit) being so much greater than those of the veins (those of entrance), the blood is withdrawn from the auricles much more rapidly than it is supplied. The walls of the auricles being too thin to withstand the atmospheric pressure, follow down (collapse) the diminishing volume of blood, producing an apparent contraction, which Dr. Dalton describes as "short and feeble," and Dr. Flint as "quick and powerful."

To illustrate: Do the two balls of a syringe, in using, have to be compressed alternately?

If you wish to throw an intermittent stream (as do the ventricles), and compress the distal ball (the one farthest from the operator), will it not recover itself (as do the ventricles), and refill *from* the proximal ball, without its having to be compressed?

Suppose, now, that the walls of the distal ball were active and strong, and those of the proximal were thin, with little resisting power, and its outlet much greater than its inlet (as is the case with the auricles). If, now, the distal ball be compressed and suddenly released, it springs back to its globular form; the suction force it exerts on the contents of the proximal ball causes the ball to collapse, because its walls are too weak to sustain a vacuum, and its opening for admission of fluid is too small to supply the immediate demand. So with the auricles, their contraction, or rather collapse, is entirely passive, and they sink to the position of reservoirs, from which the ventricles draw their supplies.

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CHLORAL HYDRATE IN DYSENTERY.—Dr. Curci has obtained good results from chloral in the treatment of typhoid diarrhœa and dysentery. In the latter disease, the remedy is combined with chlorate of potassium. It may be given with barley meal, by the mouth (from one to three grammes daily, in the case of an adult), or in the form of clysters, ten grains of chloral to two litres of the meal sufficing for ten of these. Before administration by the mouth, a light purge should be given. Dr. Curci states that chloral is not only narcotic, but also sedative, astringent, anti-diarrheic, coagulant, and hence, antiseptic. It calms the cerebro-spinal centres, as well as the sympathetic, which latter, above all, is affected in dysentery. By reason of the sedative influence of the remedy over the sympathetic, the peristaltic action of the intestines is diminished, after being temporarily increased, and the pain is made to disappear.

# Progress of Medical Science.

SOME OF THE RECENT INVESTIGATIONS INTO THE SCALA MEDIA COCHLEÆ.—Mr. C. S. Minot has collected some of the recent facts bearing on this topic (*American Journal of Otology*, April, 1881). Böttcher, Gottstein, Kölliker, and others have placed the matter in its present tolerably clear light. The cochlea grows downward and inward from the lower side of the primordial vesicle. It assumes the form of a flattened canal, and it is this canal which elongates and coils until the scala media is finally formed. The histological development of the cochlea progresses most rapidly at the base. The epithelium is at first changed in the height of the cells, being thinned out on the upper side, forming the lining of one side of the membrane of Reissner. The lower portion remains thick, and forms the crista, sulcus, and organ of Corti. As a second change, the epithelium on the under side, or wall next the scala tympani, thins out, having two thick epithelial ridges of unequal dimensions. The larger lies nearest the columella, and forms the lining of the sulcus spiralis. It soon acquires a thick cuticula—the beginning of the membrana tectoria. The smaller ridge becomes the organ of Corti, including the supporting cells, inner and outer hair-cells, and Corti's rods. Very shortly after the distinct formation of the ridges, the lamina spiralis begins to grow up between the sulcus, and the axis of the cochlea develops into the crista. In the smaller ridge are found four sets of cells arranged longitudinally. From the first row are formed the inner hair-cells; from the second, Corti's rods; from the third, the outer hair-cells; and the fourth furnishes the supporting cells.

PROGRESSIVE FACIAL HEMIATROPHY.—Dr. J. Workman (*Alienist and Neurologist*, April, 1881) presents a very interesting account of a case of this kind which occurred in the practice of Prof. Maragliano, of Genoa. The atrophy appeared to be the result of an injury received during early infancy. The patient, when a year old, had a fall, striking the left half of the face. This was followed by swelling and the other characteristics of contusion, which lasted for a few days, and then disappeared. After a time the left side of the face appeared diminished in size. It continued to diminish till the patient was ten years old, when she came under the care of Prof. M.

The patient was well developed in other portions of the body, and well nourished. The muscles of the left cheek were so extremely attenuated that the skin and mucous membrane appeared to be directly applied to each other. The part was so thinned and so adherent to the bone that it was impossible to raise a fold of the skin. The faradic current was applied for something over three months, when, on account of the closing of the clinic, the patient was lost sight of. The improvement in the part was very marked; there was still a difference in the two sides, but it was slight. The tissues of the left cheek had notably thickened, were almost equal to the sound side, and it was possible to raise quite a large fold of skin.

A CASE OF DEATH FROM CROUPOUS INFLAMMATION OF THE MIDDLE EAR, WITH ACUTE SEPTO MENINGITIS OF CONVEXITY.—Dr. E. G. Loring reports an interesting case of the above (*American Journal of Otology*, April, 1881). The patient was a middle-aged man of full

habit, who had suffered at intervals for two years from severe colds in the head accompanied with great pain in the right ear. The attacks usually yielded to treatment. On April 13, 1880, he presented himself, complaining of great pain in the right ear and the whole side of the head, this was accompanied by such extreme deafness that he could hear the watch only when in direct contact with the ear. He presented all the physical signs of commencing trouble of the middle ear. He experienced great relief from the application of leeches, and passed a comfortable night. In the course of the next day, however, the pain returned, but was more in the ear than the head; later in the day he became very delirious and violent, with labored but not stertorous breathing, the face was livid, and pulsation in the jugulars was very marked; there was no paralysis. The pupils were moderately dilated. There was some slight bulging of the membrana tympani, but less injection than on the previous day. The drum was punctured, but with a negative result, even after the application of suction. The patient sank rapidly and died in about an hour. The necropsy developed the following: There were a few atheromatous patches on the arch of the aorta, the spleen soft, but not swollen, otherwise the viscera were normal. On examining the cranium, the various sinuses contained fluid blood and coagula, but no ante-mortem thrombi. The dura appeared normal, save over the right tympanic cavity, where it was deeply congested and presented numerous points of punctate hemorrhage. There was congestion and a moderate amount of a yellowish, seropurulent exudation over the cerebral hemispheres, and a thick, yellowish, creamy patch upon the upper surface of the right lobe of the cerebellum, near the anterior and lateral borders. The substance of the brain appeared normal. The mucous membrane of the middle ear was softened, swollen, of a bluish red color, coated with a false membrane, and presented the appearance of croupous inflammation.

Vicarious Menstruation from a Sebaceous Tumor of the Meatus Auris.—Dr. J. O. Green (*American Journal of Otology*, April, 1881) presents an interesting history of what appears to be an unique case. The patient was a young lady, who complained of an occasional bleeding from the right ear. Six months before, she had had what she called an abscess of the ear. On examination the ear was found normal, save a very slight prominence just at the edge of the right meatus, which was supposed to be a thickening left from the furuncle. The patient was seen again about three years after, the bleeding had increased, and the doctor was informed that it occurred at the menstrual periods. The ear was found normal, excepting, that at the seat of the former thickening, a distinct sebaceous tumor, the size of a bean was found. From the appearance of the skin over the tumor, and the assertions of the patient and her mother, Dr. Green believed this to be the seat of the hemorrhage. The tumor was removed, and after five months there had been no return of the bleeding.

A New Ventilating Trap for the Prevention of Sewer-Gas.—Dr. Railton, Medical Officer of Health (Report to the Withington Local Board for 1880), thinks he has found in the use of Pott's ventilating trap an excellent medium for the prevention of sewer-gas entering apartments. Until recently it has been a problem unsolved to sever completely the connection between the closets and the sewers, and the only means heretofore adopted to take off the pressure of sewer-gas from the trap in the soil-pan was by providing a ventilating shaft at the top of the soil-pipe. This difficulty has been removed by the use of Pott's ventilating trap. It is made of earthenware, and consists of three parts. That nearest to the house is an open chamber, the bottom of which has a slope of the same gradient as the drain into which it passes; its top is level with the ground and is covered in by a movable grating. Beyond this grating there is a gully bend, which cuts off its connection from the drain by means of the water which it holds. This bend is so placed that it can be cleansed out, if required, through the compartment which is open to the air. Between the gully bend and the drain there is a ventilating shaft, which is intended to take off as much as possible the pressure of sewer-gas from the water in the bend. It will thus be seen that there are no less than three safeguards interposed between the interior of the sewer and the interior of the house. With the combined action of all three, there is not the shadow of a chance of any sewer-gas finding its way into the water-closet. The ventilating shaft might be insufficient by itself to prevent the gas passing up the soil-pipe, especially in times of great pressure within the sewers, as, for example, after a heavy rain, but the water in the bend offers a resistance to its passage upward. Should it nevertheless succeed in forcing its way through that, it passes into the open chamber, and thence through the grid into the air. Dr. Railton was inclined to think an objection to the use of this trap was that through the open grid a smell might be perceived every time the closet was used. This objection, however, was found to be without foundation. There is no smell whatever; the rush of water along its sloping bottom takes place so rapidly that the fæces are carried past the opening and into the drain too quickly for any smell to become perceptible, even if one happens to be close to the grid at the moment. He has had this trap applied to the drain of his own house for the last three months, and has found it satisfactory. Before that time, the water-closet acquired a peculiar stuffy smell if the window was allowed to remain closed, although the soil-pipe had a ventilating shaft of large diameter carried up above the eaves of the roof; and when the plug was pulled up, thereby temporarily destroying the trap in the pan—there was a decided rush of sewer-gas upward into the room. The application of the trap has effectually removed all this. During the severe frost the window was kept nearly constantly closed, and the gas was lighted both during the night and day to prevent the water freezing in the cistern; despite this crucial test there has never been the faintest approach to a smell.

Ocular Symptoms in Different Diseases.—Dr. Gorecki, as quoted in the Glasgow *Medical Journal*, has tabulated his views as follows:

Blepharoptosis, or the falling of the upper eyelid, indicates paralysis, complete or incomplete, of the third pair.

Lagophthalmos, or inability to close completely the palpebral fissure, is a sign of facial hemiplegia, idiopathic, or a symptom of cerebral disease.

Strabismus, occurring suddenly and accompanied by diplopia, is most frequently the result of some cerebral affection.

Xanthelasma (a yellow lamina sometimes met with

in the skin) of the eyelids occurs in certain alterations of the liver.

Subconjunctival ecchymoses are frequent in whooping-cough, and may sometimes, at the beginning of the complaint, clear up a difficult diagnosis.

Redness of the conjunctiva, watering of the eye, etc., indicate in the child the outbreak of some eruptive fever, particularly measles. The prognosis is favorable if the tears come when the child cries, but fatal if the secretion of the tears is arrested.

Spots on the cornea are often the indication of a strumous constitution.

Dilatation of the pupil, or mydriasis, indicates excessive fatigue, the existence of intestinal worms, meningitis in the second stage, or a true amaurosis. The dilatation is most frequently connected with atrophy of the optic nerve. It is seen also during an attack of epilepsy, on coming out of chloroform, after belladonna-poisoning, etc.

Unequal dilatation of the two pupils points to the onset of general progressive paralysis.

Contraction of the pupil is one of the early symptoms of tabes dorsalis. It is met with also at the beginning of meningitis, in opium-poisoning, and in chloral-poisoning.

Deformation of the pupil, particularly after the injection of atropine, indicates an old iritis, in nine cases out of ten, of syphilitic origin, if not depending on some disease of the neighboring parts.

Cataract in subjects under, say forty of fifty, is frequently of diabetic origin, and constitutes soft cataract.

Finally, the ophthalmoscope enables us to recognize the retinitis associated with Bright's disease. Retinal hemorrhages, œdema of the retina, and embolism of its central artery, are sometimes met with in organic affections of the heart. Optic neuritis and perineuritis and atrophy of the disk are symptoms of syphilis, or of tumors in the neighborhood of the cerebellum or the corpora quadrigemina.

THE ABSORPTION AND ELIMINATION OF QUININE.—Professor Lepidi-Chioti has made a series of experiments on the absorption and elimination of quinine, and comes to the following conclusions: Quinine is not eliminated with the saliva or sweat; it is not absorbed through the skin; administered hypodermically it appears in the urine after thirteen to fifteen minutes; taken by the mouth it appears after fifteen to seventeen minutes; given by the rectum it may be detected in the urine after twenty to twenty-five minutes.—*Gazette des Hôpitaux*, March 5, 1881.

TREATMENT OF SKIN AFFECTIONS BY THE METHOD OF OCCLUSION.—In an elaborate monograph on this subject, M. Busquet explains the advantages of the system of occlusion in the treatment of certain dermatoses. The following are some of the author's most important conclusions in regard to this matter. Skin affections invariably have a debilitating influence on the body, and they demand active intervention. Topical applications to the cutaneous surface are frequently unreliable in their effects. A notable exception is to be made in favor of Hebra's ointment, which, however, acts rather by occlusion than in virtue of its medicinal constituents. The good results following the employment of occlusion appear to be independent of the material used to bring it about. Caoutchouc, or cotton-batting, or Mackintosh material, will all be found serviceable. Even if the entire body is enveloped, the method will prove innocuous, for the temperature of the body is increased thereby, whereas animals whose cutaneous surface is covered over with varnish die from the effects of cold. If a diathesis underlies the skin affection, of course constitutional treatment must be combined with the local measures. Although treatment by occlusion is useful in acute cutaneous affections, it is to be employed principally in the chronic varieties of skin disease, and especially in cases where other therapeutic measures have been found unavailing. In children the entire surface of the body should never at any one time be completely covered by the occluding material. The method may be used both in the dry and moist forms of eruptions. It is of great utility in attempts to overcome inflammation and pruritus.—*Lyon Médical*, April 10, 1881.

"GALLOPING" CARDIAC RHYTHM.—At a meeting of the Berlin *Verein für innere Medizin*, Fräntzel read a paper on the above subject, of which the following is a brief abstract. The symptom under consideration consists of the occurrence of three heart-sounds for each beat, two of which belong to the diastole. In this way the cardiac sounds imitate the distant clatter of a galloping horse's hoofs. Bouillaud has been generally credited with having first called attention to this symptom, but Fräntzel asserts that what that author described as *bruit de rappel* resembled rather the beating of drums than the present symptom. Potain had indeed already described this phenomenon, but had erroneously interpreted the second diastolic murmur as a presystolic one. He had spoken of a double systolic murmur, and had, among other things, considered it characteristic of incipient contracting kidney. Johnston recognized the occurrence of galloping rhythm, and thought he had observed it in connection with bronchitis and pulmonary emphysema. Traube distinguished it from the occurrence of a double diastolic murmur, the second sound of which was said to be synchronous with the auricular contraction, but he failed to explain the symptom in a satisfactory manner.

Now, Fräntzel states that the murmur of galloping rhythm is heard with equal intensity over the entire cardiac area. The accent of the three sounds lies on the second or third one. It may be readily distinguished from other, real or false, double sounds. So Fräntzel says, at least, although he fails to give explicit particulars, only repeating the resemblance the galloping rhythm bears to the clatter of hoofs. At any rate, it has no relation with valvular diseases of the heart. It may be present in general cardiac enlargement due to chronic affections. But it is especially frequent in connection with pneumonia, typhoid fever, pernicious anæmia, and other similar diseases. In such cases an anatomical basis for its presence cannot be made out. Most frequently, however, Fräntzel observed this symptom in morbus Addisonii, associated with a tendency to syncope. And he regards it as a sign of grave prognostic importance, denoting, as it does, extreme cardiac feebleness. In other affections, likewise, weakness of the heart is accompanied by galloping rhythm, and hence the prognosis of a case depends upon, or may be modified by its presence. Concerning the ultimate physical mechanism of its origin, Fräntzel is not able to adduce positive facts.—*Allgem. med. Central-Zeitung*, March 30, 1881.

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THE RHODE ISLAND HOSPITAL at Providence, R. I., has just received an endowment of $4,000 from the late Cornelius Sullivan.

# THE MEDICAL RECORD:

## A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., Editor.

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## RECENT PROGRESS IN THE MEDICAL USES OF ELECTRICITY.

ELECTRICITY has not as yet attained a very wide range of usefulness in medicine or surgery. The cost, the inconvenience, and the lack of knowledge, have had something to do with this. And besides, the intrinsic value of the agent is undoubtedly less than was at first supposed and hoped.

There seems, however, just now to be an effort from various quarters to bring electricity into the greatest possible prominence. And an impetus has been given to its medical uses, as well as to its practical applications elsewhere. It is of interest to medical men to follow this development of our mastery over electricity in whatever direction it tends. In the causation and prevention of disease we can already see its workings. Electrical lights as now made, when used for reading, cause retinal congestion; but, on the other hand, leave a purer air. The telephone, like the telegraph, facilitates business, and takes away some of the friction of life; but it makes life faster and disturbs its healthy equipoise. There are now claimed to be practical methods by which we can make of electricity a motor power. This will diminish noise and smoke, soothe the nerves, and spare the horses, and variously modify our modes of travelling, manufacturing, and living. It, like other inventions which are real innovations, will thus have some indirect relation to medicine.

But there has been a discovery of comparatively recent date which has a more direct bearing on the uses of electricity in medicine and surgery. This is an apparatus for storing electricity. It was first invented by Ritter, of Liegnitz, was improved by Planté, and subsequently improved by M. Faure, of Paris. Trouvé seized upon the apparatus and applied it to purposes of illumination and cauterization. A description of his apparatus, given at the Academy of Medicine some weeks ago by Dr. Elsberg, was reported in these columns. Objections were raised against the Planté battery, however. It was said to be expensive, irregular in action, and not sufficiently strong. These defects made it doubtful whether the apparatus would be of very much utility. Lately, however, several inventors claim to have devised improvements which do away with most of the objections advanced.

The instrument, as perfected, is as simple in construction as it is novel and extraordinary in its powers. It consists of sheets of lead, rolled up and kept slightly separated by strips of wood or other substance. The coil is then immersed in water acidulated with sulphuric acid. According to the descriptions furnished, which are as yet imperfect, the minium with which M. Faure artificially coats the sheets of lead used in constructing his battery, others develop upon the surface in the process of charging, and by some other modifications, principally chemical in their description, correct the development of gases and reduce the cost of the plant very materially.

The charging is done by passing a current of electricity through the coils. This changes the minium (which is a mixture of lead monoxide and dioxide) into the dioxide on the positive pole, and to reduced lead at the negative pole. When fully charged, the battery is sealed. It may then be laid away and no reactions will take place. Upon connecting the poles, however, electricity is developed in a regular and powerful current, the latter depending on the size of the battery. An apparatus weighing one hundred and fifty pounds will develop electricity equal to seventy-five kilogram-metres, in one hour. In thus discharging itself, the reduced lead appears to be oxidized and the peroxidized lead reduced.

One experimenter, Dr. Higgs, states that, with his apparatus, the quantity and tension can be perfectly regulated, and that the variation from beginning to end is not over twenty per cent. He has used his instrument for medical and surgical purposes, and has also devised a lamp to go with it.

The practical applications of this new invention to medicine are as yet undetermined. But they promise a good deal, especially in the matter of illuminating cavities, of cauterizing, etc. At present the item of cost is not determined, and it may prove a serious bar to a wide use of the apparatus.

In connection with this subject of progress in electricity we should mention the recent revival of static electricity by Charcot and Vigoreaux, in Paris, and by Morton, Bartholow, and others, in this country. One fatal objection to franklinism heretofore has been that, owing to imperfect instruments, the electricity could not be obtained at all times. This has been largely obviated, and a powerful as well as constant supply of sparks can now, it is said, be

furnished. We have heard, however, that some of the best instruments have failed during the present hot season.

The introduction of these new machines has given a fresh impetus to the study of this particular form of electricity. So far, it has been found that they will secure, more conveniently, some of the effects which galvanism and faradism have before produced. Whether franklinism has any specific value not possessed oy other forms of electricity remains to be proved, and seems somewhat doubtful. The mental effect, however, of having the hair stand on end and of seeing lightning play around the room, is very great, and no doubt is often useful. The discovery by Dr. Morton of a method by which an induced current can be obtained from the instrument adds to its range of usefulness.

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### THE PREVENTION OF DISEASE BY INOCULATION.

THE suggestiveness of the fact that a malignant disease, like small-pox, can be prevented by the inoculation of a harmless virus, seems to have been felt very strongly of late.

Within the past few years there have been announced methods of protective inoculation against five or more different diseases, not including pleuro-pneumonia. These diseases are: chicken-cholera, anthrax, "black leg"—a disease resembling anthrax—a peculiar septic fever, and the poison of certain fungi. They all occur in the lower animals, and are more or less akin pathologically. The evidence that the diseases in question can actually be prevented by inoculations is not of the best in every case, but the claims that are made are very positive, and there have certainly been obtained some striking results.

The methods by which the protective virus is obtained vary in different cases. Thus, Pasteur puts what he considers the specific germ of chicken-cholera and of anthrax through a series of prolonged cultivations; Greenfield, in experimenting with splenic fever poison, inoculates it in guinea-pigs, and then uses the secretions from these animals upon healthy heifers; Davaine heats the infectious secretion of anthrax with a little carbolic acid, and then injects it into healthy sheep. Koch, like Greenfield, cultivates the septic virus of one animal in the organism of another. Kajewsky, in his experiments with septic virus, heated it to 55° C. for ten minutes, and then injected it into healthy animals.

P. Grawitz has recently made some interesting experiments with a specially cultivated mould. This mould, in its natural condition, is harmless, since it cannot live in the blood. By carefully cultivating it, however, in warm and alkaline fluids, it finally adapts itself to the new medium. If then injected into the veins of an animal, it rapidly multiplies, and generally causes death. If a very small amount be injected, however, the animal recovers and subsequently has an immunity against further injections. Grawitz's experiments throw considerable light upon the manner in which preventive inoculations act, but upon this subject we cannot enter.

As may be seen, the methods by which the poison of a disease is modified so as to act as a preventive against further attacks are not uniform. There is only one thing in common, and that is that the virus is lessened in amount or virulence. What other modifications are necessary it is impossible to say. In some cases, as in the mycosis experimented with by Grawitz, and in pleuro-pneumonia, there is a small amount of the virus inoculated, and the result is simply a mild form of the disease. In other cases, it seems probable that the virus and the resulting disease are modified in character.

The method of modifying virus which has secured the best-established and most practical results is that used by Burdon-Sanderson and Greenfield. These experimenters worked upon the theory that the cultivation of the virus in the organism of animals not ordinarily attacked by the special disease would modify it and make it protective.

We have recently received a letter from Dr. Wesley Miller, of this city, in which he claims priority in this idea, as well as in that of preventing diseases generally by vaccination. In 1873, Dr. Miller argued the possibility of preventing tuberculosis in man by inoculation of some modified form of bovine tuberculous matter. He further states that, while he was in South America, a physician, acting upon this idea, made some experiments upon the native Indians. He took the matter from the lung of a tuberculous cow, and made several successive "cultivations" of it in other healthy animals. It was then inoculated in tuberculous Indians, with, it is stated, favorable effects.

All this seems wild and unjustifiable experimentation; but, whatever its worth or its results, it undoubtedly involved the principle which is now so extensively adopted by European experimentalists. Dr. Miller seems entitled, therefore, to the credit of priority in the idea—an idea which is, of course, only the natural corollary from the facts of vaccination.

The same gentleman asserts, but on insufficient evidence, that foot-and-mouth disease in the cow is identical with scarlet fever in man. The possibility of obtaining a protective virus for this latter disease is therefore suggested.

Referring to the antagonism of animal poisons, Dr. Miller states as a fact that the Mexican Indians inoculate themselves with the poison of the rattlesnake, and in this way believe that they are protected from all venomous snakes.

He also says that he was stationed at one time on a vessel that was lying off Callao while yellow fever was prevailing in that port. Several persons who

did not go ashore, and who were not exposed at all, caught the fever very mildly indeed, but sufficiently to protect them. Others who went ashore were taken very severely.

We repeat these statements of Dr. Miller's for what they are worth. They may at least help to create an interest in a subject that certainly deserves investigation. The usefulness of preventive inoculations has been established in two diseases: small-pox in man and pleuro-pneumonia in cattle. It remains to be seen whether the method has not a much wider application.

### THE WOUNDED PRESIDENT.

THERE has been a continual improvement in the President's condition since our last issue, and at present writing there is little doubt of his ultimate recovery.

We have published elsewhere a chart showing the range of temperature, pulse, and respiration. It will be seen that the fever gradually increased until the 12th instant, when it reached its maximum. From that day it began to decline more or less regularly. On the morning of the 13th, it was normal for the first time. The pulse and respiration showed no unusual change. The patient has had few bad symptoms of any kind. He has shown some restlessness and has experienced some pain, but has of late improved in each of these particulars. On the 17th there was a slight gastric disturbance, which rendered a lessening of his diet necessary. The appetite has, however, on the whole, been improving. The bowels are kept open by enemata.

The diet of the patient has been mostly of a liquid character: meat-juice, milk, etc., with toast, and sandwiches of scraped raw beef. Rum, Tokay and port wine have been given in small quantities. The medication has consisted of morphine at night and bisulphate of quinine in ten to fifteen grain doses. The wound continues to be dressed antiseptically twice a day. It discharges several drachms of laudable pus. Microscopic examination of this pus has, so far as we can learn, failed to show that there is any bile or liver-debris in it. The drainage-tube can now be pushed four and a half inches into the wound. Pressure upon the side of the abdomen below the wound brings out pus. No positive facts regarding the course or position of the bullet have yet appeared.

It is stated that certain electricians went to the White House last week with an electro-magnetic apparatus which it was thought might indicate the position of the bullet. But no success has as yet been reported.

The fact that the President is lying ill in a hot city has given a great impetus to the invention of cooling apparatus. With one of these the air of the patient's room is now kept at any desired temperature.

## Reviews and Notices of Books.

THE DISPOSAL OF THE DEAD. A Plea for Cremation. By EDWARD J. BERMINGHAM, A.M., M.D. 8vo, pp. 120. New York: Bermingham & Co. 1881.

IF the recent formation of a joint stock cremation society in our city is to be taken as a criterion of increasing interest in the question of the incineration of the dead, Dr. Bermingham's very interesting and instructive book arrives *à propos* to enlighten the public mind upon the subject. Regarding as axiomatic the assertion of Sir Henry Thompson that "no dead body is ever buried within the earth without polluting the soil, the water, and the air around and above it," the author endeavors quite successfully to convince the skeptic mind that our present system of disposing of the human dead is fraught with danger to the living. The book contains the following chapters: I. Different Methods of Disposal of the Dead; II. The Evils of Burial; III. History of Cremation; IV. Cremation from a Sentimental Point of View; V. Description of Cremation and Apparatus; VI. Cremation of Dead Animals and of Garbage; VII. *Résumé* of Arguments For and Against Cremation. Regarding the question of incineration from a sentimental point of view, the author combats the feeling of repugnance which the prejudiced mind experiences at the thought of cremation, by holding up a rather striking picture of the human body undergoing progressive decomposition in the ground. He asserts that all the rites and ceremonies with which the living are wont to express their feelings for the dead are as applicable to the new system as to the old. In his sixth chapter, the author touches upon a subject which interests every New Yorker—"the present plan of collecting garbage periodically, or rather spasmodically, and dumping it into the sea." He hopes that our legislators may be made to mend the error of their ways, and to bring about a much more economical plan of disposing of our refuse—by the process of incineration. The book is not remarkable for its originality, but its presentation of facts is systematic, the arguments are sound, and the conclusions legitimate. It is written in a pleasant entertaining style, and will doubtless command a wide reading.

TRANSACTIONS OF THE THIRTIETH ANNUAL MEETING OF THE ILLINOIS STATE MEDICAL SOCIETY, held at Belleville, May 18, 19, 20, 1880. Chicago: C. H. Blakely & Co.

THIS book contains quite a number of creditable papers. Dr. Haller presented an interesting report of an extensive epidemic of mumps which occurred, during the autumn of 1879, in Vandalia and vicinity. Among the adult males metastasis to the testes was the rule, and in young boys it was quite common. Metastasis was exceedingly rare among females, and failed to occur in any of the young girls who came under Dr. Haller's observation. Brain complications were quite frequent among young boys. Quotations from standard authors showed that they regarded the disease as one of little significance, and the metastasis to the testicle as a favorable sign. The deductions drawn by Dr. Haller from the Vandalia epidemic do not, however, agree with these statements. In his experience, the mildest cases were those in which there was no metastasis to the testicle. He

has seen the virility of that organ destroyed in cases that came under his notice. Metastasis from the testicle to the brain, upon the not infrequent occurrence and the dangers of which authors lay considerable stress, did not take place in his experience. Brain symptoms occurred rather as a complication during the time the parotitis existed or was beginning to decline. Dr. Fink cited several interesting cases of the influence of the mental condition of the mother upon the child in utero. In a paper upon "The Identity or Non-identity of Membranous Croup and Diphtheria," Dr. Gill draws the following conclusions from observations and examination of the subject: 1st, there is no distinction to be made from a microscopic examination of the exudate which would lead to a division of membranous laryngitis into non-diphtheritic and diphtheritic, or simple membranous croup and diphtheritic croup; 2d, there is no distinction, clear and decided, to be made, based on chemical examination of the membranous product; 3d, every clinical manifestation by which a distinction might first appear between diphtheritic and non-diphtheritic membranous laryngitis is unreliable in a differentially diagnostic point of view.

HUMAN AND ANIMAL VARIOLÆ: A Study in Comparative Pathology. By GEORGE FLEMING, F.R.C.V.S.

THE author of this book treats his subject from the point of view of the comparative pathologist. He asserts that in the higher orders, at least, every species of animal has its own distinctive kind of variola, capable of indefinite existence, transmission, or propagation in that species, while its transfer to others is often attended with difficulties, failure, or striking differences in the resulting phenomena. Refuting the idea of the identity of human variola and vaccinia, the author avails himself largely of the researches and experiments of the committee appointed by the Society of Medical Sciences, of Lyons, to investigate this and kindred subjects.

HOW WE FED THE BABY TO MAKE HER HEALTHY AND HAPPY. With Health Hints. By C. E. PAGE, M.D.

THIS is quite a commendable little treatise upon the dietetic and hygienic management of infants. Brought up in strict accordance with the author's views, his little girl, so the fond father tells us, has attained the very acme of infantile perfection. The book is worthy of the perusal of practitioners and parents.

TRANSACTIONS OF THE ELEVENTH ANNUAL SESSION OF THE MEDICAL SOCIETY OF VIRGINIA, held in Danville, October 19, 20, and 21, 1880. Richmond: J. W. Ferguson & Son. 1880.

THE session was opened with the president, Dr. Henry Latham, of Lynchburg, in the chair. In his address to the convention, he severely criticised the attitude of the State toward the medical profession, the low estimate the commonwealth placed upon the services of the latter, as evinced by certain acts in regard to professional compensation, and the criminal inadequacy of the laws upon the subject of coroners. He alluded with pleasure to the fact that the two medical colleges of Virginia had adopted a three years' course of medical study, pointed out the advantages of a knowledge of medical jurisprudence, and concluded with remarks upon the importance of medical societies. The papers presented were not numerous; no surgical reports were submitted. In his article on "New Remedies," Dr. Cullen stated that his experience led him to regard viburnum prunifolium as "a real remedy in threatened abortion or flooding after it." He has also obtained good results in functional cardiac disease through the administration of cereus bonplandii. Dr. Dabney read a paper upon "The Practical Bearing of Recent Advances in Cerebral Localization and Cerebral Thermometry." The next convention will be held at Warrentown.

# Reports of Societies.

## ILLINOIS STATE MEDICAL SOCIETY.

*Thirty-first Annual Meeting, held at Chicago, Ill., May 17, 18, and 19, 1881.*

(Special Report to THE MEDICAL RECORD).

TUESDAY, MAY 17TH.—FIRST DAY.

DR. GEORGE WHEELER JONES, OF DANVILLE, PRESIDENT, IN THE CHAIR.

THE PRESIDENT'S ADDRESS

dealt with the state of indifference in the profession of the southern part of Illinois, in regard to the State Medical Society. It referred to medical legislation, and advised the appointment of a committee to look after it. It alluded to insufficiency of training and predominance of quackery in the present age, and commended higher education. The

REPORT ON PRACTICAL MEDICINE

was read by DR. E. P. COOK, of Mendota. He gave information received from all parts of the State on the subject of epidemics. Typho-malarial fever prevailed in the latter part of 1880. The last six months had been exceptional in the prevalence of rare diseases, and in increased mortality. Zymotic diseases had been on the increase since October, 1880. The southern part of the State had been more favored than the rest, enjoying as it did last winter the climate common to a more northern latitude.

Rubeola of a mild character prevailed in almost every district. Cerebro-spinal meningitis had been observed first in January, some cases complicating measles. Variola was present in the northern part, especially in Chicago, and vaccination had been received with unusual favor by the people. Variola had been traced back to Chicago from most outside districts. Pneumonia appeared in various counties, and an epidemic of dysentery had been observed in De Witt County. Pertussis prevailed in an epidemic form over the State, causing many deaths; vaccination had mitigated the disease in some cases. Winter cholera, properly a form of gastro-enteritis, had first made its appearance in January; in some cases it resembled cholera morbus, lasted one to two weeks, and was unaccompanied by fever. It was probably specific. Anodynes, astringents, and antiseptics constituted the treatment. A few cases of trichinosis were on record. An increase in the mortality from most diseases had occurred in the cities and villages situated along the Illinois canal and river to the Mississippi, and had been referred to the sewerage of Chicago, some of which follows that course. This had become the leading sanitary topic in the State outside of Chicago.

DR. WHITMIRE related the particulars of an epidemic of malignant diphtheria, which originated

among visitors to the corpse of a patient who had died of the disease, in July, 1880. Eighteen per cent. of the cases died. This was in a low part of the country, on clayey soil, and many of the cellars were in a bad condition. The epidemic ended in January, 1881. Treatment consisted of atomized solutions of carbolic acid and lime-water, laxatives, wine, chloride of iron and chlorate of potassium, quinine, and, in some cases, digitalis; milk diet. Some of the patients were thirty years old, but no death occurred in patients over fifteen years of age.

Dr. R. G. Curtis, of Joliet, said there were twenty or thirty cases of diphtheria all the time in his place, while not one case had been recorded before the opening of the Illinois canal. Scarlatina was also endemic in Joliet. Benzoate of sodium and pilocarpine had been successfully used in a few cases. Croup had co-existed with diphtheria, and did not seem to differ from it in any manner. The mortality from cerebro-spinal meningitis had been from 20 to 67 per cent.

Dr. Charles T. Parks, of Chicago, read the

REPORT ON SURGERY.

Listerism had been almost universally adopted by the younger surgeons, but it had been modified to a great extent, many of the leading operators dispensing with the spray. The most important points in treating wounds was to insure free drainage, close coaptation, and rest. The first was accomplished by the use of rubber tubes, which he thought should not be left longer than seventy-two hours in a wound, on the average. Horsehairs were efficient for capillary drainage. Absorbable tubes, made of chicken bones, softened in strong solutions of hydrochloric acid, seemed an improvement, for they could be used with permanent dressing, and were absorbed as soon as they became useless, or in about eight days. Their only disadvantage was their cost. To insure close coaptation, the catgut ligature was as good as any in tying arteries, but torsion had been successfully used for the purpose of arresting hemorrhage, even from the largest arteries. In his opinion no substance had been so well borne as silkworm-gut ligature. It was less expensive than silver wire, but strong and durable. It was said that catgut was sometimes absorbed too soon, and that soaking it in a solution of one part chromic acid to thirty of glycerine would prevent that disadvantage.

Rest must be secured by splints, pads, or bandages. That insured by Lister's dressing is not the least advantage of that method. Frequent dressing prevents irritation from the discharge, and blood-poisoning, which sometimes follow. He called attention to the high rate of mortality after operations for varicocele, and the severe complications which had followed in many cases. Dr. R. G. Bogue, of Chicago, had introduced a new and more efficient method, which consisted in cutting into the scrotum under the spray, and applying the catgut ligature to one vein at a time, leaving the ligature to be absorbed; no ill result is liable to follow.

Dr. Parks related his experience in the restoration of nerve-trunks, by bringing the two ends of the injured nerves in contact by ligatures. He had tried the operation in two cases, and in both successfully. In one, motion had been lost for eighteen months, and was restored in ten days; sensation returned after four months. He said that the reputation of nerve-stretching in sciatica was now well established, although its pathology was unknown. Experiments on recent subjects to ascertain the strength of the various nerve-trunks of the body had been performed by him for the first time last winter. The brachial nerve sustained 80 pounds, the median, 52; radial, 16; ulnar, 44; facial, 7¼; the great sciatic, 200, and sustained a transverse traction of 236. Some nerve-trunks would elongate two or three inches before breaking.

Dr. Parks had also operated successfully on five cases of hernia, for their radical cure. He had obliterated the peritoneal sac in each of those. One of the patients was exhibited before the meeting.

Dr. William A. Byrd, of Quincy, related a case of supra-orbital neuralgia which had lasted for fifteen years, and which was cured by opening the frontal sinuses, and removing some necrosed bone. He had advantageously dispensed with the tube in tracheotomy, and used wires instead.

Dr. H. Webster Jones, of Chicago, read the report on

OBSTETRICS.

He stated that more uterine diseases exist now than ever. Whether advance in civilization or a closer investigation by gynecologists accounted for this, he could not decide, but he had no praise for those who had claimed such importance for gynecology. He said that two or three ignorant obstetricians kept a gynecologist repairing damages. Although the professors of obstetrics in the various American medical colleges were not surpassed by any in Europe, yet very little, if any, practical experience is acquired in the schools. But few branches necessitate such thorough knowledge as this; for the accoucheur should be able to teach hygiene to his patients, make urine analyses when required, and should even extend his attention to the preparation of the bed of pregnant women. The time at which the membranes should be punctured, the pressure to be exerted on the coccyx, the use of forceps, the support of the perineum, were so many things which required a profound knowledge on the part of the doctor. He commended intra-uterine injections of a two per cent. solution of carbolic acid, twice daily; daily visits for a week, giving douches for subinvolution, and treating any ulceration of the os remaining after seven weeks. The hand he considered the best dilator, and thought the forceps should be seldom used. The last visit should be made four to six weeks after confinement.

Dr. De Laskie Miller approved the recommendations of Dr. Jones in every particular. He said parturition was the most complicated of physiological functions, and taxes the forces of nature to excess. The obstetrician should be skilled in his art. His conduct had greater bearings on obstetrics and on gynecology than most physicians were aware. Of the many causes of rigidity of the os, one was an immature condition of the membranes which had not yet taken on fatty degeneration, as they should at time of delivery. Another was an adhesion of the membrane to the womb. This should be separated by the introduction of the finger within the os and around the membranous sac. If this were overlooked it would be liable to cause laceration of the neck, "a fruitful source of income to the gynecologist." Rupture of the perineum was often dependent on the ignorance of the midwife concerning the relations of the head to the tissues of the mother. In supporting the perineum, compel the flexion of the head to remain until the occiput comes out of the vulva, and prevent a straight expulsion of the head through the perineal tissues.

Dr. J. W. Dora, of Mattoon, read a report on

GYNECOLOGY.

He hoped that false modesty, which was on the wane, would soon allow the practical demonstration of gynecological operations before classes of students. He was aware that much harm had resulted from some dogmatic teaching of the first gynecologists, when applied by the unsuccessful and ignorant. Besides, several highly recommended operations were almost entirely abandoned now. A sort of uterine mania had spread among the profession. In obstructive dysmenorrhœa from flexion, he had made a partial incision of the cervix and dilatation with a good result. He recommended rapid respiration as an anæsthetic in such cases. Carbolized sponge-tents are useful in these. He had used Thomas's curette and the local application of tincture of iodine in metrorrhagia. The curette could be dispensed with in many cases. Gynecology had especially progressed since the discovery of anæsthetics. Injuries following parturition should be immediately repaired, and if a first operation fails, it should be repeated after a convenient time.

Dr. Ellen A. Ingersoll, of Canton, read a paper on the

ETIOLOGY AND TREATMENT OF DYSMENORRHŒA.

The amount of pain in this trouble is in direct ratio to the flow and to the resistance offered by the obstruction. The congestive form is the most common, but it is more amenable to treatment than that depending on flexion. A frequent cause of flexions and versions of the uterus depended on a disproportional increase of the body of the womb in relation to the neck. General atony of the system was more frequently a cause than a result of such diseases, and many uterine troubles depended on hepatic congestion or derangement, attended with constipation and a sallow complexion. The liver was more taxed than any other organ in the elimination of nerve-disintegration, which is thrown out of the system by the liver in the form of cholesterine. She had found good results from the use of mercurials in such cases. She also used tonics, alteratives, viburnum, German camomile, aromatic spirits of ammonia. If the general treatment fails, she employs local means, especially the sponge-tent, some days before the return of the menses. Flexion of the cervix uteri, frequent in early life, often disappears after pregnancy. She considered pessaries best fitted for cases of version and flexion of the body of the uterus.

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Second Day—Wednesday, May 18th.

Dr. F. C. Hotz, of Chicago, read the report on

OPHTHALMOLOGY AND OIOLOGY.

He commended homatropine to dilate the pupils. Its effect was so rapid and disappeared so quickly that people would submit to it, and be enabled to resume their occupation on the following day. He related a case of otitis of ten years' standing, depending on malarial fever, which was cured by the administration of quinine. He had used boracic acid as a lotion, and potassium iodide internally, without any benefit. He reported in favor of the ear-trumpet, and adversely on the audiphone. He did not believe section of the ocular nerves should replace enucleation of the eyeball, since the former was often a failure.

Dr. W. J. Maynard, of Chicago, read a paper on "Dermatology and Syphilis," which was chiefly devoted to a consideration of

RINGWORM OF THE SCALP,

of which he had observed twenty cases. It was very liable to cause baldness. It was very frequent in children, and more curable if treated early. After a short time the characters of this disease were so lost that its diagnosis was not clear, and it was liable to be called eczema. It was most liable to attack strumous or scrofulous children, and might persist a long time. In mild chronic cases the recovery was sometimes hastened by exciting some local inflammation. A fungus was invariably present at the root of the hair, and the disease was contagious.

The child should have its comb, brush, and bed separate from others, and it should not attend school. The disease was often caught from the lower animals. The incubation of the disease was from seven to fourteen days. Parasiticides meet the first indication. The hair should be cut, at least over and around the diseased spots. Cataplasms softened the scabs, and mercury, the oleate or other less costly preparations of the drug, could be efficiently used; but, in cases of long standing, epilation became necessary, and forceps, made for that purpose, were, perhaps, the best means. Iron, arsenic, cod-liver oil, and iodide of potassium were given internally. A change of air had induced a cure in one of his cases. Relapses were common.

INFLUENCE OF SUBMUCOUS FIBROIDS ON GESTATION AND LABOR.

Dr. C. T. Reber, Shelbyville, reported two cases illustrating the subject. In the first, the fœtus must have died at the fifth month. There were two submucous fibroids in the body of the uterus, one five and the other three inches in length. The delivery occurred at the ninth month, with a good deal of hemorrhage. In the second case the tumor was discovered during labor also, and gave rise to hemorrhage, collapse, and puerperal fever. He considered conception very unfortunate in such cases.

Dr. W. S. Caldwell, of Freeport, read a paper on

ABORTION.

He said that repeated hemorrhage after abortion should lead the physician to explore the cavity of the uterus immediately, and the statements of midwives in regard to the delivery of the placenta were not reliable. In cases of retained placenta he gave ether, dilated the os with the fingers, and removed the membranes. Did not commend the use of placental forceps, nor the administration of ergot.

LARYNGEAL TUMORS.

Dr. E. Fletcher Ingals read an abstract of a paper on this subject, with a report of a dozen cases in his practice. They were most frequent in males, and from the age of twenty to forty years. A mild, chronic catarrhal laryngitis was, in his opinion, the most frequent cause. Some cases depended on syphilis, phthisis, croup, or pharyngitis. The most prominent symptoms were hoarseness, sometimes amounting to aphonia, especially if the tumor grew on one of the vocal cords; tickling, difficulty of deglutition, cough at times of the croupy form, and rarely stridulous respiration, dyspnœa, expectoration of tenacious mucus, which might finally cause suffocation. A moist râle was heard over the larynx.

The laryngoscope was indispensable for a diagnosis. A tumor the size of a pea on or near the vocal cord is a serious obstacle, and must be removed. The removal of malignant growths prolonged life; but, if the tissues were so involved as to suggest a removal of the larynx, he doubted much whether the patient ought to be exposed to sudden death irom the operation, or, at best, to get a very brief relief.

His treatment consisted in the application of astringents to reduce the hyperæmia, removal of the growth in one or two sittings, and hot-water pack for thirty-six hours, to prevent acute inflammation. Local application to laryngeal tumors seemed to provoke them, and were useless at best. Papillar tumors were most common, oftener sessile than pedunculated, and ranged in size from that of a pea to that of a walnut. A case of phthisis had improved after extirpation of a laryngeal tumor, and even gained flesh, but the patient died in the course of a year. He used zinc sulphate, half a drachm to the ounce of water, as a local application; also solutions of silver nitrate, copper sulphate, etc. The removal of tumors in several of his cases had been followed by a complete recovery. Bitter tonics and suitable general treatment had been administered. Cases of malignant tumors had not recovered. Inhalations of tincture of benzoin, of carbolic acid, and of other remedies had been used, in some cases with good results.

Dr. Trusdale, of Rock Island, suggested the local application of carbolic acid to laryngeal tumors, as its inhalation had proved very efficient in the treatment of all forms of laryngitis.

Dr. J. H. Hollister, of Chicago, read a paper on

ABNORMAL THERMAL CONDITIONS IN DISEASES, AND THE MEANS OF CONTROLLING THEM.

He referred the source of animal heat to the oxidation of carbon and the combustion of hydrogen, stating, however, that the vital activities were a necessary factor. Every molecular change produced heat, so that secretions and excretions are both attended with the production of heat; and the latter was an index of vital energy. A part of the food absorbed was also exclusively used for the production of heat. A man in good health generated more heat during digestion than a man suffering with a high fever, for this (*i.e.*, the high fever) was chiefly due to retention of heat. He believed in the existence of vaso-dilator nerves; because secretions will be increased through nerve-stimulus, even without an increase in the blood-supply. The effect of heat-retention in the system was lassitude, anorexia, a derangement of the secretions; paresis of the motor system, diminished capillary circulation attended with congestion and swelling; suspended nutrition, giving rise to necrosis. A high temperature would induce permanent changes, especially in the liver, the organ most influenced thereby. The tissues were stained by the hæmatin of the blood.

A reduction of temperature was obtained in two ways: by lessening the production of heat, and favoring its dissipation. Withdrawal of food, cardiac sedatives, as tartar emetic, veratrum viride, aconite, chloral hydrate, amyl nitrite, and bloodletting, answered the first desideratum; the second was obtained by cold baths, cold packs, cold affusions, etc.

UNION IN INTRACAPSULAR FRACTURES OF THE NECK OF THE FEMUR.

Dr. C. C. Hunt, of Dixon, reported two cases in the adult. The diagnosis could not be made evident. The treatment consisted in strict immobility with longitudinal and lateral extension for six or eight weeks. The foot of the bed had been elevated twelve inches on the injured side and eight on the other. Fourteen pounds were added to the longitudinal extension, and eight pounds to the lateral. The recovery was perfect in both cases.

SPECIALISM IN MEDICINE.

Dr. A. Reeves Jackson, of Chicago, related to what extent this had existed in ancient Egypt, and said that history had repeated itself in our age. The chief causes for such a division of labor in medicine were an increase in professorships, a lack of medical knowledge in the general practitioner, who could not make a practical study of his art in the colleges; or, if a few did, "it was altogether accessory and necessitated an accessory fee." The consciousness of possessing little experience in many cases would lead the young physician to call a specialist in consultation; it was the only proper course, although humiliating. Many found it impossible to avail themselves of all the necessary knowledge, and studied only one subject, while others trusted to luck and did not study at all, well knowing that "nine cases out of ten will get well any way." The college faculties having become aware of this necessity for longer training, some attempted to remedy it "for a consideration." A post-graduate course had thus been established. It was a "repetition of the old story," consisting in lectures and demonstrations, without experimental practice. Precept without example was insufficient, and the various branches taught were only suggestive of a useful treatment.

Specialists were necessary to meet the demand for special skill, and was it not for this the progress of medicine had been arrested. Great men were all specialists, and concentrated energy was the most powerful. Among its evil results, however, were conceit, a proneness to magnify slight ailments, a tendency to originate "men of one idea," and sometimes it would lead to errors in diagnosis. But these were not at all direct results. Men unacquainted with general medicine, or students just out of school, had entered specialism, which here ceased to be specialism to become quackery, sometimes professional quackery. But as no organ carried on the process of life without the participation of all other organs, it was necessary to become well acquainted with all before treating one in particular. Specialists should be welcomed by the profession, as it is the outgrowth of the latter; but they must first be intelligent general practitioners.

Dr. C. W. Earle, of Chicago, read a paper on

EPIDEMIC RÖTHELN.

This had existed in the State of Illinois and the neighboring States, but prevailed especially in Chicago during the past spring. He described the disease as it came under his observation in over one hundred cases. It was contagious—as much so with adults, who never had the disease, as with children—and developed after an incubation of seventeen days. A mild coryza, suffusion of the eyes, enlargement of the glands of the neck, a slight fever, and a characteristic eruption, were invariable symptoms. Prodromal symptoms were not apparent. The temperature remained normal is most cases. Pneumonia complicated a few cases; rheumatism, one or two. Urticaria sometimes appeared, and malarial troubles were liable to be present with it in the Northwest.

Rötheln generally disappeared without desquamation. Hardly any treatment was necessary.

Dr. Roswell Park reported a hundred cases of the same disease (Rötheln) in the orphan asylum. Bronchial complications had been a prominent feature in these. The eruption had a tendency to become confluent in some cases. Mild pharyngitis and laryngitis were present in twenty cases. Sometimes the eruption was discovered on the mucous membrane of the pharynx first. Four cases had severe pneumonia. All recovered under appropriate treatment.

A report of the committee on

MEDICAL LEGISLATION,

sent by Dr. M. A. McClelland of Knoxville, was read by the secretary. Acts to regulate the practice of medicine had often been enacted as a means of protection for the regular practitioners against quacks, yet the latter had often reaped the most benefit from them, exacting their fees in advance when obliged to do so. However, he considered that England surpassed us in the latter element, as the enormous sale of Buchanan's diplomas in that country would prove. Quite a number of clerical gentleman had been connected with the manufacture of bogus diplomas. People were bound to have all they wanted of medicine as well as of theology and politics, and hence the frequent failure of medical legislation. Yet it had always existed in some form. Health officers existed under the Roman empire, and quarantines had always come under State legislation. An effort at regulating the practice of medicine had been attempted in New York, in Massachusetts, in Illinois, and in a few other States; but whenever a lawsuit was instituted, it would be considered as a persecution by attorneys, and failed from securing the application of the law. The legislature had been so unfavorable to the medical profession in this State as to admit the claims of the physician only as sixth in the list after the death of the patient.

The next paper was by Dr. H. Gradle, of Chicago, on the

INFECTIOUSNESS OF TUBERCULOSIS.

It develops after an incubation of two to four weeks, in rabbits. Inoculation had been used as a test in clearing the diagnosis of that disease in man; and fungous arthritis had been proven to be a local process of that disease, through that means. Scrofula belonged in that class, as tubercles had been obtained from scrofulous ulcers. In cases where tubercles were produced by mechanical irritation only, they were not specific, and could not reinoculate the disease. Nothing but true tuberculosis would reproduce it. By experiments, it was found that tubercles circulate in the blood of some tubercular patients. The frequency of contagion through the respiratory organs would partly explain the frequency of the disease in the lungs, and the bowels would be more likely to receive the contagion through contaminated milk. Atomized tubercular matter was a ready means of communicating it to dogs. A peculiar micro-organism, which had been repeatedly found in tuberculosis, seemed most likely to be the cause of it, as it reproduced the disease after all other matter had been excluded. In fungous arthritis and other localizations of the disease, tubercles must have been present somewhere in the body previous to the local injury.

Dr. E. F. Ingals said that it was evident to him that tuberculosis was infectious, although he could not say whether the contagium was a micro-organism, and he thought it might take the coming decade to decide this question.

USE AND ABUSES OF ALCOHOL.

Dr. E. Ingals had corresponded with all the leading members of the society regarding the use of alcohol. Most of them replied that it was a narcotic poison, a sedative, and a paralyzer. That it led to diseases of the nervous and of the locomotor system, and was prone to affect the mind. It was anæsthetic to some extent. Many abnormal processes would follow its abuse in man.

Dr. Ingals said that, in his experience, alcohol in appropriate doses was a stimulating tonic of great efficiency. It was unsurpassed by any other remedy in collapse and other diseased conditions. From time immemorial, wine had been considered one of the good things of earth. But alcohol should not be used in health, and physicians should discountenance its use by their example as by their precepts. Yet, as a remedy, it should not be discarded because abused.

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THURSDAY, MAY 19TH—THIRD DAY.

THE USE OF CHIAN TURPENTINE IN CANCER.

Dr. E. Andrews, of Chicago, had made a series of investigations on this subject, which he reported before the society. The first samples procured were a balsamic mixture, partly composed of balsam of fir. Later he procured the genuine article, and used it with about the same results in one hundred cases, together with surgical measures. Many of these cases passed from his observation. Sulphur had been used at the same time. A case of epithelioma of the lip had been benefited by the use of sulphur alone during three months. Most patients affected with cancer were in the habit of reporting favorably after using any new remedy for a short time. In his opinion, neither Chian turpentine, nor any balsam was of any apparent benefit in cancer. Perhaps it was good in some forms of benign tumors.

Dr P. S. Hayes read a paper on

EPILATION BY ELECTROLYSIS.

He described the process, and was confident that this was the quickest, safest, and most certain of depilatories. It had been successfully used in ectropion by Mitchell, of St. Louis, in 1875, and by Dr. G. H. Parks, of New York, in 1879. A suitable battery, with forceps and needles, are all that is necessary. A strong current is preferable. The needle forming the negative pole, its larger end was introduced into the papilla, along the hair follicle, and the current connected by placing the positive electrode near the spot, or letting the patient hold it. The hair was held by the forceps while introducing the needle, and it was now easily extracted; the pain was blunted by the electrolysis. This process is especially applicable to moles. The operation seldom needs to be repeated.

Dr. Roswell Park had made careful dissections of *the sheaths of the palmar tendons*, and described their arrangement and its bearing on surgical operations. He advised the use of anæsthetics, and a careful dissection of the tissues in opening deep-seated abscesses about the hand or wrist, in order to avoid permanent injury.

THE BASIS OF LISTER'S THEORY.

DR. TRUSDALE said that Lister had taken the profession by storm with his germicide theory, but that he, as well as many other surgeons, regarded carbolic acid as one of the best antiphlogistics, and thus accounted for the excellent results of its use as a lotion or as a spray. There were many antiseptics just as good as carbolic acid to destroy low organizations, yet none of them could replace it in surgical operations; nay, some were injurious. Carbolic acid acted as a powerful stimulant to the nerves, thereby constricting capillaries, retarding vital process, and suspending it if used in strong solutions. It was also anæsthetic, even when producing the mummification of a part. The spray was especially useful in applying carbolic acid locally in a very diluted form, best suited to the internal organs. Its range of usefulness was almost unlimited. He had used it in burns and scalds with a very good result.

DR. J. P. JOHNSON, of Peoria, had used preparations of phenol with as good results as carbolic acid. He had used the latter locally in abscesses of the vulva, penetrating ulcer of the cornea, in ulceration of the os, and to the inside of the uterus, with excellent results. He applied it with a stick shaped for that purpose, and dipped in liquid carbolic acid. The absence of pain gave this the advantage over all other escharotics. He called particular attention to the preservative power of carbolic acid when used to keep specimens, and thought it acted on the same principle on the living tissue.

The officers elected for the ensuing year were:

*President*—Robert Boal, of Peoria.

*Vice-Presidents*—A. T. Dora, of Tolono; Ellen A. Ingersoll, Canton.

*Treasurer*—J. H. Hollister, Chicago.

*Secretary*—S. J. Jones. Chicago.

*Assistant Secretary*—W. A. Byrd, Quincy.

Next place of meeting, Quincy.

## NEW YORK SURGICAL SOCIETY.

*Stated Meeting, March* 22, 1881.

DR. H. B. SANDS, PRESIDENT, IN THE CHAIR.

NASO-PHARYNGEAL POLYPUS.

DR. GEO. A. PETERS presented a patient with the following history. He was seventeen years of age, and was admitted to St. Luke's Hospital, January 24, 1881. On admission a tumor was found which occupied the posterior nares, projected forward and appeared externally at the left meatus, and filled a large portion of the right nostril. It was elastic to the touch, and, on looking through the mouth, was seen pushing the uvula downward and forward, and encroaching somewhat upon the throat. The tumor appeared eighteen months before his admission, during which time he had been seen by several specialists and physicians, and one had succeeded in removing a small portion of the growth with the wire loop. It was recognized as a naso-pharyngeal polypus, and an operation for its removal was advised and accepted. After performing Dr. Cheever's and one or two other osteo-plastic operations upon the cadaver, for the purpose of ascertaining which would give the best opportunity for removing the tumor, Dr. Peters finally reached the conclusion that the operation recommended by Maisoneuve, and practised by Dr. Sands in a case which he had reported, was best adapted to the case. The patient was etherized in the usual way, and, as a preliminary step in the operation, Dr. Peters introduced, through an opening made through the crico-thyroid space, an ordinary tracheal canula, to which was attached an elastic tube with a funnel at the other end, through which the ether was administered during the subsequent steps of the operation. A large piece of sponge, with a stout string attached, was then crowded into the posterior fauces, shutting out the flow of blood from the larynx and œsophagus. His reason for using the sponge was partly because of the results of his experience with it in like operations, and partly from the fact that the only Trendelenberg's tube he had at hand was one made for the adult larynx, and was too large for this case. The plan he adopted was perfectly satisfactory. Not a drop of blood found its way either into the air-passages or stomach. The knife was now introduced just below the inner canthus upon the left side, cutting through all the tissues to the bone on the line of junction between the cheek and the nose, passing around the left ala into the opening of the nostril, thence along the junction of the skin and mucous membrane to the middle line, and along the latter to the free margin of the upper lip, the latter being completely divided. This flap was dissected up and the bone beneath fully exposed. With a Langenbeck's button-pointed saw he notched moderately the surface of the maxillary bone on a line corresponding with the floor of the antrum. He then split the mucous membrane upon the hard palate, detached the soft palate laterally; instead of dividing it through the centre, as is usually done, he made his incision upon one side, so that the curtain of the palate fell down entire. He then removed the left central incisor tooth, and with bayonet forceps —one blade in the nose and the other in the mouth —crushed the bone. The forceps were then introduced into the groove made by the saw, the bone detached, and afterward wrenched out with the lever forceps. This gave abundant room for the removal of the tumor, which was extensively attached to the basilar process of the occipital and to the sphenoid bones, and it was removed with scissors, scrapers, and the fingers. It was very vascular, and the hemorrhage was profuse. The tumor was removed with considerable difficulty. No vessels required ligation. The flaps were secured in position with fine sutures, and one twisted suture at the edge of the lip. The recovery was rapid and without complication, and the result was excellent.

DR. SATTERTHWAITE, after examination, pronounced the tumor to be a fibroma, although a portion pinched off from the part projecting from the nostril, before the operation, presented under the microscope the appearance of a "small-celled sarcoma and very vascular." This was probably owing to the inflammation following the application of the wire loop which had been used by a surgeon to remove the projecting portion of the tumor before the patient came under the care of Dr. Peters.

DR. PETERS remarked that when performing the different operations on the cadaver, he was surprised to find how little room Dr. Cheever's gave.

DR. WEIR remarked that while witnessing Dr. Peters' performance of this operation, he was struck by the unnecessary amount of room offered by Maisoneuve's section of the jaw. Since that time he had experimented on the cadaver, and had succeeded in obtaining sufficient room by cutting away the jaw along with the roof of the mouth, as in the plan usually followed, but preserving the alveolar process and

teeth posterior to the first cuspid tooth. Less deformity would result by such a procedure, and space enough by this method would be afforded for all the required surgical manipulations.

### THE MECHANISM OF COLLES' FRACTURE.

Dr. Frank H. Hamilton then spoke on the above subject, substantially as follows:

It is my opinion that the classical fracture of the lower end of the radius, known as Colles' fracture, is the product of three causes. By the classical fracture I understand that which occurs, and is the most common, usually about three-fourths of an inch from the lower end of the radius, ranging from one-fourth to one inch, but averaging three-fourths of an inch. In rare and exceptional cases, the fracture is still lower, quite at the epiphyseal line.

The three causes which operate in the production of the classical fracture, are:

*First.*—Impact, as synonymous with concussion, upon the lower end of the radius. I mean by it that in the fall upon the palm of the hand, the lower end of the radius is caught between two forces: first, the impulse or weight; second, resistance of the ground. I assign this as the principal cause of this fracture.

*Second.*—Avulsion, or *par arrachement*, or the tearing off effect through the action of the anterior ligament of the carpus; especially through the action of two very strong fasciculi of this ligament. It will be seen farther on that I ascribe to this force a greater role in the production of a certain class of fractures, but which do not belong to the classical form now under consideration.

*Third.*—Muscular action has something to do, if not directly, with the production of the fracture, it indirectly does in the steadying of the wrist, and with its ultimate sequences, namely, impaction, etc.

Dr. Hamilton then gave a brief *résumé* of the literature of the subject, and theories set forth by the different writers. He said: So far as I know, Pouteau was the first to describe accurately the fracture, an account of which is found in his memoirs, published in 1783. He ascribed the fracture in question solely to muscular action.

According to Malgaigne, about the year 1820, Dupuytren having also described this fracture in detail, declared that it was due wholly to concussion, or impact, the force of the fall being conveyed from the palm of the hand through the carpal bones indirectly to the lower end of the radius.

To this day a large majority of surgeons who have written upon this subject have accepted this theory as being satisfactory, and as alone explaining the phenomena which are usually present.

In 1834, M. Bouchet, in a thesis, declared that in his attempt to produce dislocation upon the cadaver he had always produced a fracture; and in 1842 M. Voillemier stated that he had seen two fractures of the lower end of the radius caused by avulsion alone. In one case the patient had fallen upon the extremities of his fingers, and in the second case it had been caused by bending the hand forcibly back, the injury being inflicted by a companion. And Malgaigne, in 1855, in alluding to these cases, remarks that he would not be surprised if it should be found that a good number of these fractures were produced in this way.

In 1860–61, M. Oneseme Lecompte published in the *Archiv. Générales des Medicin* an elaborate paper on the subject of fracture of the lower end of the radius, which can be found in the numbers for December, 1860, and for January and February, 1861, and in which, after a careful description of the ligaments, anterior and posterior, with a study of the physiology and the pathology of this accident, he announces that the fracture is *always* produced by *arrachement*, and that even Barton's fracture, so-called—namely, a chipping off of the posterior margin of the lower end of the radius—was produced, at least primarily, by the same cause. He did not admit that anything was due to muscular action or to impact.

M. Tillaux in his "Anatomie Topographique," published in 1877, says: "I agree with Lecompte, that the classical fracture of the lower end of the radius is always produced by *arrachement*."

In 1878, Dr. Pilcher read before the Academy of Medicine, in this city, a paper upon this subject, in which he ascribes the fracture also to the same cause. He also, in a late paper, refers to Duplay as having entertained the same opinion.

I have omitted to refer to several other authors who have written upon this subject, such as, Jarjavay, Diday, Hoel, Nélaton, Colles, Robert W. Smith, and others, and for the reason that they have contributed nothing specially in the elucidation of the points now under discussion. Colles, whose views were first given to the public in the *Edinburgh Medical and Surgical Journal*, in 1814, had made *only* some clinical observations, and placed the seat of the fracture at one and one-half inch above the end of the radius, an error into which clinical observation would be very likely to lead him.

Robert W. Smith wrote in 1847.

It is against each of these exclusive theories that I address myself.

That it is exclusively due to muscular action is a view which has long since been abandoned. That it is not entirely due to impact is equally improbable in my judgment, although it is the opinion which has been entertained by the great majority of surgeons up to the present time.

Before proceeding further, I will first call your attention to the measurements made by Robert W. Smith, of *twenty* museum specimens, the measurements being made to determine the length of the lower fragment, and upon the palmar surface. Of these twenty specimens, in *two* examples the line of the fracture upon the palmar surface is one quarter of an inch from the nearest point of the articulation. In *two*, it is one-half an inch; in *two*, five-eighths of an inch; in *ten*, three-quarters of an inch; and in *four*, it is one inch. And an examination of the illustrations of most of these specimens found in his book confirm these measurements made so carefully by him. It will be observed that Smith also attempts, by these specimens, to refute the argument of Voillemier, who claimed that there was usually impaction. He made a longitudinal section antero-posteriorly of the lower end of the bones, by which he was able to show that a large amount of apparent impaction was due to the presence of the overlying callus. But he failed entirely to show that a portion of this dense lamellated tissue, which was seen penetrating toward the lower end of the radius, did not indicate a certain amount of impaction. Indeed, the inclined position assumed in nearly all these fractures illustrated in Smith's drawings sufficiently show that a degree of impaction was inevitable.

I wish next to call your attention to these specimens which are before me, and first to those from the New York Hospital Museum. In this collection the fracture was produced by impact, and in nine it

traversed the entire diameter of the bone from side to side. They are twelve in number and I will give you the summary.

Length of lower fragment from the lowest point on the anterior face: Less than one-quarter of an inch, 1; one-quarter of an inch and over, 2; three-eighths of an inch and over, 2; one-half an inch and over, 7. In all, except one specimen, the fracture was oblique from below up and back, so that the lower fragment was the longest posteriorly.

I will now present specimens of

FRACTURES CAUSED BY AVULSION ON THE CADAVER.

First, those produced by *forced dorsal flexion.* Of these there were *five.*

No. 1. Rupture of anterior carpal ligament at two points, and nearly transverse fracture at the base of the styloid apophysis of the radius. Adult male bone. Right radius.

No. 2. The left radius of the same body, broken in precisely the same manner.

No. 3. Left radius of adult male, broken in a manner similar to Nos. 1 and 2, but with a little more obliquity, involving nearly the whole transverse diameter of the bone, and terminating in the joint just at the ulnar margin.

No. 4. Left radius of an adult male; the fracture being nearly an exact counterpart of No. 3.

No. 5. Left radius of a woman. Transverse fracture, involving a thin plate of the anterior margin of the lower end of the radius, and terminating through its whole length in the joint. The fracture includes only that portion of the bone to which the anterior ligament is attached. The third insertion of the ligament, which I took the liberty of naming Pilcher's ligament, is intact—the oblique fasciculus of the anterior ligament. I think he was the first to demonstrate its full value in the distortion which exists after the fracture has occurred.

I have next to present specimens of fracture produced by *forced palmar flexion;* they are *three* in number. I do not know that the argument has been fully expounded upon this point, but I suppose it has been intended to say that, when the bone breaks by forced flexion, pressure being made upon the back of the wrist, the fracture is due to the same mechanism—the action of the carpal ligaments.

In the *first* specimen the bone is broken almost precisely on the line of the epiphysis, at from one-eighth to one-fourth of an inch from the lower end. In all these instances the subject was not under thirty years of age, and as the epiphyseal junction is united firmly at the age of twenty, we cannot suppose it is merely an epiphyseal separation; and besides, the character of the lesion shows that it is not.

In the next specimen the fracture, produced also by forced palmar flexion, is still nearer to the margin; so near that I was in doubt whether it was not the ligament which had given way, but upon examination I ascertained that it was just within the epiphyseal line, probably not more than two millimeters of the lower end of the radius being carried off. It also is exactly transverse.

Here is the third specimen belonging to this group, in which the fracture was produced by forced palmar flexion, and it took place a little higher up, about one-fourth of an inch from the lower end of the bone, and exactly transverse. Apparently the fracture is not complete antero-posteriorly.

I have also to mention that Dr. Ferguson brought me a specimen recently which he had produced by avulsion, and in which the hand was thrown *back* with a great deal of force, and the bone was broken at the classical point one-half or three-fourths of an inch above the lower end of the radius. I supposed the specimen was in this collection, but it is not here.

I should add to those presented, as illustrating the first group, a fracture caused by a fall upon the palm of the hand, two cases of my own; one of which is figured in the last edition of my work on "Fractures and Dislocations," Figs. 91 and 92. In both cases the fracture was produced by falls, and it was from one-half to three-fourths of an inch from the lower end of the radius; in one nearly transverse, in the other very oblique, before, back, and upward.

I have next to call your attention to the marked obliquity seen in these Museum specimens, and also illustrated by Robert W. Smith's specimens. You will see that in a majority of them—exceptions exist—the line of fracture is from before, back and upward. I am prepared to say, therefore, upon this point, so far as I can judge, that obliquity upward and backward is rather the rule than the exception when the fracture is produced by impact. That has not been so positively stated by other writers. According to my later observations, however, the rule is almost universal. At all events, we may say that, in the great majority of cases, there is obliquity from before, backward and upward where there is impact; but if there is lateral obliquity, as there is occasionally, it is very unlike that seen in those cases in which the styloid apophysis is broken off from the lower end of the radius by avulsion; it is a line running up along the axis of the bone, forming a clean, sharp edge all the way up; but when produced by *arrachement,* it is very nearly transverse, and ordinarily presents a uniformly serrated appearance. There is comminution, in a certain number of cases, of the lower fragment. There is a question as to what it is that produces this comminution of the lower fragment, and I have no doubt that Dr. Pilcher would be correct if he would say that in the majority of cases it is due to impact; but if he says *all* cases, I believe he is in error. I believe that impaction occurs to a limited extent in the majority of cases; and, theoretically, I assume that it should be so, 1st, because there is impact; 2d, because there is strong muscular action; and 3d, because the fragment is tilted back, and therefore, unless the bone is elongated, it must be impacted to a certain extent. But the fact of the existence of impaction to this extent cannot be used against *arrachement,* as Dr. Pilcher thinks it may be. It is much easier for me to assume that comminution of the lower fragment is due to impact than it is to believe that it is due to *arrachement.*

But I wish to address the society chiefly upon the point whether Dr. Pilcher, Le Compte, Tillaux, Duplay, and others, are correct in assuming that the classical fracture is *always* due to *arrachement,* or whether I am correct in assuming that it is due to the action of *three* operating forces.

But I have not given full credit to *arrachement.* I think it solely responsible for the production of that fracture in which the styloid apophysis of the radius is broken off at its base nearly at a right angle with the axis of the bone.

If the force of the impact is sufficient to break the lower end of the radius, and does not cease there, it extends and expends itself upon the oblique fasciculus of the anterior ligament, which terminates in the styloid process of the ulna, and tears it off. And this is explained by the especially broad and strong

insertion of the anterior carpal ligament into the crest of the anterior apophysis of the radius along its outer or radial margin. Also, it explains how *arrachement* is solely responsible for the result when the specimen shows tearing off only of the anterior margin of the lower end of the radius, as seen in one of my specimens; and also when the fracture is exactly at the epiphyseal junction, as seen in another of my specimens.

Dr. Post asked whether any member had seen deep impaction in a recent case of Colles' fracture.

Dr. Hamilton replied that Fig. 92 in the last edition of his work on "Fractures and Dislocations" illustrated a case of that kind. He did not suppose that impaction would occur to a degree which would make it difficult to overcome by traction when there was no muscular action.

Dr. L. A. Stimson, referring to Dr. Hamilton's statement that he had understood from Dr. Pilcher that Duplay accepted the exclusive theory of avulsion, said that in a surgery written by Folin and Duplay the two kinds of mechanism of Colles' fracture were mentioned distinctly—first, that by avulsion, and second, that by crushing, so clearly described by Dr. Hamilton.

It seemed to him, with reference to avulsion, that it was necessary to bear one point in mind, as far as it is a factor in the ordinary production of this injury. He was inclined to think that the opinions of surgeons had been largely influenced, and perhaps too much so, by results obtained upon the cadaver. Dorsal flexion to produce avulsion must be carried beyond a right angle, and, as a matter of fact, when a man falls upon his hand, it is very exceptional to have the hand flexed beyond a right angle. By looking at one's own hand, he thought it was apparent that the heel of the thumb is not to the outside of the axis of the shaft of the radius; in other words, it is not in a position to exercise any leverage. Any force which tears off the anterior portion of the radius must be exerted upon a point on the posterior side of the fulcrum. That point does not exist in the ordinary fall upon the heel of the thumb. It exists only in a fall in which the pressure acts upon the metacarpal bones. The motion of the hand upon the wrist takes place not entirely between the radius and the carpal bones, which are in immediate contact with it, but rather between the first and second rows of bones of the carpus. It is impossible to throw one's hand far enough back to give a line of the carpal bones behind the posterior border of the radius. Therefore he thought the mechanism of crushing is usually more frequent than that of avulsion. Unquestionably, avulsion does occur. This specimen which I present, produced by an ordinary fall, shows quite complete comminution, but I think there is no trace of avulsion.

Dr. Weir thought that the antagonistic position of Dr. Hamilton and of the believers in the theory of avulsion as a cause of fracture of the lower end of the radius resembled not a little that of the disputative knights in the fable of the gold and silver shield. Both parties were probably right in the question of the fracture. The specimens presented to-night corroborated the fact first enunciated by Foucher in 1852, and subsequently developed at length by Lecomte, and of late revived by Pilcher, who, in his second paper, modifying the views of his first, acknowledged the labors of his French predecessor. From these and other sources it is proven that avulsion by means of the anterior ligament is the cause of the transverse fracture of this portion of the radius. He himself believed that avulsion so acts when the hand is in a position of extreme or anatomical extension, and that the further changes in the radius were produced by the impact of the carpus against the posterior portion of the bone above. But does avulsion act when the hand is merely in a condition of physiological or ordinary extension; and again, in a fall producing the fracture, is the hand anatomically extended? To answer the first question, he had made a few experiments on the cadaver in subjects between twenty and fifty years of age, and he presented for inspection of the society two upper extremities wherein the force had been applied, as Lecomte suggested, to the humerus, with the hand fixed in a position of physiological or moderate extension, and it will be seen that a fracture exists in the anterior aspect of the radius, beginning half an inch from the joint, and that on its posterior margin the line of fracture runs obliquely upward and outward from a point half an inch from the joint to more than an inch at the ulnar aspect of the bone. No comminution of the lower fragment, however, took place. In another specimen a strongly comminuted fracture exists, with characteristic posterior deformity.

To further test the effect of the impaction theory —that is to say, the effect of the weight of the body on the hand, directly or *vice versa*—in the one specimen the anterior ligament was divided, in the other subcutaneously, with the effect, with the hand in anatomical or forced extension, of giving rise to a slightly comminuted fracture of the posterior ligament only of the radius, running up nearly an inch on that side; and in the other specimen, where the muscle had been dissected up, the ligament was exposed and divided throughout, and then the force of impact was applied, with the hand in extreme anatomical extension, producing no injury to the radies, but comminuting the semilunar bone.

As to whether, in the ordinary falls, the hand is physiologically or anatomically extended it is difficult to determine, though the presumption is more in favor of the latter, and several experiments of C. Schmit, in his late thesis on the subject of the fractures, seems to prove this. Schmit rendered immovable the elbows in a cadaver, and allowed the body to fall forward. The hand encountered the ground, became anatomically extended, and in certain instances rested against the dorsum of the forearm, producing a fracture. It had been asserted that direct force could not be applied to the radies by means of the carpus in extreme extension, and that the pillars of the first arch—*i.e.*, the scaphoid and the piciform bones—did not, in such a position, touch the ground. A repetition of Cruse's experiments, made this afternoon, showed that with ink applied to these points, contact with a sheet of paper could be made in more than half the trials essayed, bringing, however, the piciform down more readily than the scaphoid. From these experiments, it seemed clear to him that avulsion and direct pressure both combined to produce this fracture, when coexisting in the order of time mentioned.

It was observed, in the production of the fracture experimentally, that it was more difficult to accomplish it in the young subject than in the old. Schmit has tested this point by the dynamometer. By avulsion—that is, by forcibly extending the hand or the forearm in adults from eighteen to fifty years of age —an average force of fifty kilogrammes was required. In adults beyond sixty years an average force of thirty kilogrammes was demanded. By direct pres-

sure (Nélaton's method), the force, even in old people, varied from ninety to one hundred kilogrammes. This is the scientific expression of the clinical fact, long in our possession, that fractures of the lower end of the radius are more common in elderly persons.

THE PRESIDENT drew attention to the fact that the experiments made by Dr. Hamilton, and the specimens shown, seemed to be unlike those which are in the possession of Dr. Pilcher. So far as Dr. Hamilton's specimens showed, there is a very great difference between fracture as produced experimentally by forced dorsal flexion and the fractures of the radius contained in the New York Hospital Museum. In looking at these two sets of specimens, Dr. Sands thought that one could hardly avoid the conclusion that the force of avulsion alone failed to account for the production of Colles' fracture. It had been said by Dr. Pilcher that the results of his experiments were different from those obtained by Dr. Hamilton, and that, by the force of avulsion alone, he had usually succeeded in causing fracture of the radius, the situation of which, instead of being close to the articular surface, as in Dr. Hamilton's specimens, was at a considerably higher level, as is generally observed when Colles' fracture occurs in the living subject. Dr. Sands thought it would be desirable to repeat these experiments, in order to determine whether their results were constantly the same, and whether such fractures could be produced as those exhibited by the specimens of Colles' fracture contained in the museum of the hospital.

DR. WEIR suggested that Schmit's experiments might explain the difference – namely, that one used greater force than the other.

THE PRESIDENT said that that might be, but all the specimens exhibited in which the fracture had been experimentally caused by extreme dorsal flexion showed the same kind of lesion, one very unlike Colles' fracture, as now understood.

DR. MASON had seen several specimens of fracture of the same variety as those presented by Dr. Hamilton, which were produced upon the cadaver by different house-surgeons.

DR. HAMILTON, in closing the discussion, said: My argument is based entirely upon the supposition that these fractures, which I have made by avulsion, represent what will be the general result when the force of avulsion is alone applied. It is very easy to simulate avulsion on the cadaver, because it does not require muscular action or impact; and we should get a class of results similar to those which came from falls upon the hand, provided avulsion is the only element of causation to be considered. It is exceedingly difficult, so I believe, to make upon the cadaver such a fracture as that which arises from the fall upon the hand when the physiological forces are in operation; because I maintain that impact, avulsion, and muscular action unite in the production of the classical fracture, the latter being necessary to give tone to the parts so that the forces can be applied more directly to the lower end of the bone. My specimens have been taken without selection, and I had no thought of this difference when they first came into my possession. The idea that the fracture representing avulsion is different from that produced by a fall is a recent one. If Dr. Pilcher's specimens illustrate the same fracture as that produced by a fall upon the hand in the living subject, there is an end of the argument. But the Doctor must not say that if one exception occurs, if he once breaks the radius at the classical point by avulsion, it must therefore be avulsion that causes *all* fractures; because there may be exceptional circumstances, and there may be peculiar harmonies in the fall. I have already cited one specimen which I was unable to present, and in which Dr. Ferguson produced the fracture at the classical point by avulsion upon the cadaver, but it was only as an exception that I mentioned it. The question is, what is the general result of avulsion, and what the general result of a fall upon the hand?

### SUBCUTANEOUS NEUROMA.

DR. A. C. POST presented a subcutaneous neuroma removed from anterior part of the forearm of a man thirty-four years of age. It had existed seven years, and had been the seat of acute pain. The specimen showed filaments of one of the cutaneous nerves projecting from its surface. Since its removal the pain had ceased.

DR. CHAS. K. BRIDDON then presented a specimen of carcinoma of the prostate and rectum, accompanied with a written history.

The society then adjourned.

## Correspondence.

### THE TRADE-MARK MONOPOLY SYSTEM.

TO THE EDITOR OF THE MEDICAL RECORD.

DEAR SIR—In reply to a communication from Dr. Bigelow, in your journal for June 25th, in relation to the resolution on patents, trade-marks, and copyrights, now before the American Medical Association, I would like to say a few words. If the aim of the gentleman's communication was in defense of the trade-mark scheme, I would like to ask whether he is aware of the "true inwardness" of the system he is defending. It is a common error to suppose that the so-called "patent medicines" flooding the market are patented. This is rarely the case. The scheme is a trick, unconstitutional in its nature, detrimental to science and the useful arts, and ruinous to legitimate trade.

Well known drugs are mixed together, and a fancy name designed by which to call the compound. This name is registered as a trade-mark; and is the only name by which the article is known; the name is owned by the manufacturer, and used by him to prevent competition. Competition prevented, the owner is enabled to affix an exorbitant price thereon. An immense demand is then created, by advertising the compound to be of marvellous value. This is easily effected, for the publication of reports with regard to the remedy is in the hands of the owner. In the most conservative form of this system, the formulæ are kept secret. The remedy is thus owned body and soul, for the knowledge of its composition, the sale thereof, and the publication of the results of its use are completely in the hands of the manufacturer. *Such is the trade-mark monopoly system.*

There is to be urged against this system, that it is in every respect unscientific and misleading. That it is unconstitutional in its nature, and detrimental to science and the useful arts, can be clearly seen by the following quotation regarding the patent law, against the spirit of which this trade-mark control is obtained:

"Many, and perhaps the great majority of inventors, have incorrect ideas of the nature of a patent

privilege. Starting from false premises, they reason wrongly about various questions that arise, and are never able to comprehend why laws read as they do, and why the courts make certain constructions of the laws. The belief is very generally entertained that inventors have a natural right to their inventions, of the same kind given by the statute, irrespective of the actual passage of the law.

"This is not a fact.

"The right to the exclusive use of an invention is not a natural right—that is, pertaining to men in a state of nature—but when it exists at all it is a civil right, pertains to men under the protection of a civil government.

"An inventor has no right to his invention at common law. He has no right of property in it originally. The right which he derives is a creature of the statute and of grant, and is subject to certain conditions incorporated in the statute and in the grants." There is no absolute or natural right that I, being the original and first inventor to-day, have to prevent you and everybody else from inventing and using to-morrow or next day the same thing."

But the public argue that the promotion of science and the useful arts is of great benefit to society at large, and that such promotion can be attained by granting to inventors the exclusive use of their inventions in exchange for "the giving to the public a full knowledge thereof by means of a proper application for a patent, whereby the public is enabled to practise the invention when the patent expires." The article thus finally becomes public property.

By taking unfair advantage of the trade-mark law, however, manufacturers are enabled to steal a control which does not belong to them by right, hold this control for an unlimited time, so that the article trade-marked never becomes public property, and to prevent the publication of knowledge concerning the remedy, and thereby to lock up science and a useful art from progress.

Scientific indorsement of a scheme of this kind is surely to be decried.

The resolution offered at Richmond was designed to bring up these points for discussion, so that a better system might be adopted compatible with the interests of science and trade.

"*Resolved*, That it is against the spirit of the code of ethics to prescribe a remedy controlled by a patent trade-mark or copyright." This is surely so, for the code distinctly forbids the use of patent medicines in so many words. The spirit of the code is scientific and opposed to any control which shall hinder the free progress of science.

"It shall except, however, a patent upon a process or machinery for manufacture, *provided patent be not used to prevent legitimate competition.*" This is designed to allow trade the protection granted by the patent law, but to prevent a similar advantage from being taken of the patent to lock up the art of pharmacy as in the case of the trade-mark law above described.

"It shall also except the use of a trade-mark used to designate a brand of manufacture, provided the article so marked be accompanied by working formula duly sworn to, and a technical scientific name, under which any one else can manufacture the same." This is to allow the legitimate use of a trade-mark to distinguish a brand of goods. "York Mills," for example, is a trade-mark. It distinguishes a certain brand of linen, but it does not prevent competition in the manufacture of linen. If linen were only known by the name "York Mills," and that name belonged to one manufacturer, a dangerous monopoly would be created. Precisely the same monopoly exists in the case of the trade-mark medicines.

Why the working formula is required, has already been explained.

Finally, the promiscuous classification of new drugs in the category of remedies of the kind described is unfair.

If new drugs are introduced in the same spirit which characterizes the trade-mark medicines, the criticism is sound. Such an introduction is unwarranted; but in a scientific spirit the introduction of new drugs is desirable. It is the duty of the drug trade to supply the demand for drugs, and it is their privilege to create a demand by advertising in a legitimate way. When they attempt to furnish the medical profession with information concerning new drugs, the method chosen is open to criticism, but they certainly have the right to do so. If the information be the best obtainable and credited to its source, this is all that can be asked. It would be well for Dr. Bigelôw to examine this subject more closely before making such sweeping statements. Possibly there are drug-houses in the trade whose motives are pure and whose methods are commendable.

FRANCISCUM.

NEW YORK, July 9th.

## ARMY NEWS.

*Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from July* 10, 1881, *to July* 16, 1881.

SIMONS, JAMES, Lieut. Colonel and Surgeon. Granted leave of absence for one month. S. O. 120, Department of the East, July 20, 1881.

MAUS, L. M., Captain and Asst. Surgeon. Now awaiting orders in Washington, D. C., to report in person to commanding officer, David's Island, N. Y. H., for temporary duty at that post. S. O. 158, A. G. O., July 13, 1881.

COMEGYS, E. T., Captain and Asst. Surgeon. Now awaiting orders at Cincinnati, O., to report in person to commanding officer, Columbus Barracks, O., for temporary duty at that post. S. O. 158, C. S., A. G. O.

GARDINER, J. DE B. W., Captain and Asst. Surgeon. The extension of leave of absence granted him March 14, 1881, from A. G. O., further extended six months. S. O. 157, A. G. O., July 12, 1881.

SHANNON, WILLIAM C., Captain and Asst. Surgeon. Assigned to duty with escort to Ute Commission, from Fort Bridger to the Uintab Agency. On return of Commission to Bridger, to rejoin his station, Fort D. A. Russell. S. O. 62, Department of the Platte, July 6, 1881.

FEMALE PHYSICIANS, says the *Medical and Surgical Reporter*, are all the time gaining points. The Society of Medical Practitioners of St. Petersburg, at their meeting of May 2d, decided to admit medical women to the membership of their Society. In London the number of students in the London School of Medicine for women this past winter reached to the respectable figure of eighty. There are, at the present time, forty-two female medical students in the Paris faculty. Eighteen of them are English, eleven French, ten Russian, and three Americans.

# Medical Items and News.

YELLOW FEVER APPEARING.—Acting Assistant Surgeon Blount, of the Marine Hospital Service, announces that two cases of yellow fever have been brought to Pensacola, Florida, in the ship Emma Payzant. Since these cases appeared, five others have developed on the same vessel. The disease has not, however, reached the city.

MEDICAL ANALYSIS OF THE PRESIDENT'S CASE.—The following tabular statement shows the variations of the pulse, temperature, and respiration in President Garfield, from July 3d to date of going to press:

| *Date.* | *Time.* | *Pulse.* | *Temperature.* | *Respiration.* |
|---|---|---|---|---|
| July 3 | 10.30 P.M. | 120 | 100.0 | 20 |
| July 4 | 12.30 A.M. | 112 | 99.8 | 20 |
| July 4 | 8.15 A.M. | 108 | 99.4 | 19 |
| July 4 | 12 30 P.M. | 110 | 100.0 | 24 |
| July 4 | 7.45 P.M. | 126 | 101.9 | 24 |
| July 4 | 10 00 P.M. | 124 | 101 0 | 24 |
| July 5 | 8.30 A.M. | 114 | 100.5 | 24 |
| July 5 | 12.30 P.M. | 110 | 101.0 | 24 |
| July 5 | 8.30 P.M. | 106 | 100.9 | 24 |
| July 6 | 8.30 A.M. | 98 | 98 9 | 23 |
| July 6 | 12.30 P.M. | 100 | 99.7 | 23 |
| July 6 | 8.30 P.M. | 104 | 10 0.6 | 23 |
| July 7 | 9.15 A.M. | 94 | 99.1 | 23 |
| July 7 | 1.00 P.M. | 100 | 100.8 | 23 |
| July 7 | 8.00 P.M. | 106 | 100.3 | 23 |
| July 8 | 8.15 A.M. | 96 | 99.2 | 23 |
| July 8 | 12.30 P.M. | 108 | 101.4 | 24 |
| July 8 | 8.00 P.M. | 108 | 101.3 | 24 |
| July 9 | 8.30 P.M. | 100 | 99.4 | 24 |
| July 9 | 1.00 P.M. | 104 | 101.2 | 22 |
| July 9 | 7.15 P.M. | 108 | 101.9 | 24 |
| July 10 | 10.00 A.M. | 106 | 100.0 | 23 |
| July 10 | 1.00 P.M. | 102 | 100.5 | 22 |
| July 10 | 7.00 P.M. | 108 | 101.9 | 24 |
| July 11 | 8.00 A.M. | 98 | 99.2 | 24 |
| July 11 | 1.00 P.M. | 103 | 99.8 | 24 |
| July 12 | 8.00 A.M. | 96 | 98.6 | 22 |
| July 12 | 7.00 P.M. | 104 | 102.4 | 24 |
| July 13 | 7.30 A.M. | 93 | 98.5 | 20 |
| July 13 | 7.00 P.M. | 100 | 101.6 | 24 |
| July 14 | 8.00 A.M. | 90 | 99.8 | 22 |
| July 14 | 7.01 P.M. | 98 | 101 | 23 |
| July 15 | 8.30 A.M. | 90 | 98.5 | 18 |
| July 15 | 7.00 P.M. | 98 | 100.4 | 20 |
| July 16 | 8.30 A.M. | 90 | 98.5 | 18 |
| July 16 | 7.00 P.M. | 98 | 100.2 | 19 |
| July 17 | 8.30 A.M. | 90 | 98.4 | 18 |
| July 17 | 7.00 P.M. | 98 | 100.2 | 20 |
| July 18 | 8.30 A.M | 88 | 98.4 | 18 |
| July 18 | 7.01 P.M. | 102 | 100.7 | 21 |

ASSISTANT SANITARY INSPECTORS.—The corps of fifty Sanitary Inspectors annually appointed by the City Board of Health began work last week.

GRISCOM'S FAST.—John Griscom is said to have completed his forty-five days' fast in Chicago. Little attention was paid to his experiment, if such it was. The scientific results from the study of his case remain to be announced.

CHLORAL HYDRATE AND GLYCERINE, IN DIPHTHERIA.—A solution of fifteen to thirty parts of chloral hydrate in one hundred parts of glycerine is the latest German remedy for diphtheria. The solution is to be applied locally every two hours, with a soft camel's-hair brush. Korn, who recommends this method of treatment, has used it with gratifying results for the past fifteen years.

EXCURSIONS FOR SICK CHILDREN.—The Floating Hospital of St. John's Guild has been put in thorough condition. The first trip of the barge was made on Tuesday, the 5th inst., leaving the Guion pier, foot of King street, North River, at a quarter past 8 A.M., and foot of Fifth street, East River, one hour later. Trips are to be made regularly through the season from the same points on Tuesday, Thursday, and Saturday of each week. Tickets may be obtained at all of the dispensaries and of physicians. The Floating Hospital is to be supplemented this summer by the Seaside Nursery, and the work of saving the sick babies will be prosecuted as diligently as means for the purpose are given. Donations for this work are urgently requested, and may be sent to William H. Guion, treasurer, No. 8 University place.

A NEW EXHILARANT.—M. Luton discovered by accident the effects of the following exhilarating mixture: Tincture of ergot of rye, five grammes (gr. 75); solution of phosphate of sodium (ten per cent.), fifteen grammes (℥ ss.). Mix in a quarter of a glass of sweetened water, and give at one dose on an empty stomach. In very susceptible, excitable people, a condition is produced resembling that following the inhalation of nitrous oxide gas; they laugh excessively, feel slight dizziness on attempting to walk, and in many ways suggest alcoholic intoxication. In those who are more sedate and imperturbable, a condition of mild exhilaration merely is induced; the cutaneous circulation is improved, a feeling of buoyancy and cheerfulness develops itself, and lasts for several hours, the patients being agreeably conscious of mental and physical stimulation. The author has verified these observations in so many cases that they must be considered established. He has found different individuals equally susceptible, but has been able to assure himself that there is always some effect. As might be expected, men are less affected than women; in no case has any unpleasant result been observed. The author feels himself justified in recommending his discovery to the profession, although compelled to do so on a purely empirical basis, having arrived at no satisfactory explanation of the action of the mixture. He especially advises its use in cases of melancholia, hysteria, chlorosis, and the various conditions in which languor and depression of spirits are present. The patients to whom he has given it were sufficiently convinced of the efficacy of his prescription to ask for its repetition, assuring him of the benefit they derived from its use.

Subsequent trials have shown that sometimes the above mixture has no effect, at least on men.

PURGATIVES BY HYPODERMIC INJECTION.—It has been found (Paris *Médical*) that hypodermic injections of aloin (the alkaloid of socotrine aloes) will cause purgation when used in doses of one twenty-fifth of a grain. We can thus, by combining apomorphia and aloin, produce an action each way without having to introduce anything into the stomach.

SEVERE ACCIDENT TO A PHYSICIAN.—Dr. George Whipple Porter, of Providence, R. I., had his left foot crushed by a railroad accident on July 12th, necessitating amputation of the leg.

THE MASSACHUSETTS MEDICAL SOCIETY PRIZE was not awarded to anyone this year. The Committee state that no essay had been received during the past year, and that those sent in during the year before were unworthy of a prize.

RUSH MEDICAL COLLEGE.—Dr. J. S. Knox has been appointed adjunct-professor of diseases of children.

Dr. D. T. Nelson has been appointed adjunct-professor of gynecology in the same institution.

POISONING BY BOLOGNA SAUSAGE.—Thirteen Hungarians employed in the mines at Drifton, near Wilkesbarre, are said to have been poisoned by Bologna sausage. Five deaths are reported.

# Original Lectures.

## ON

## SYPHILITIC IRITIS—EPIDEMIC CATARRHAL CONJUNCTIVITIS—CONVERGENT STRABISMUS;

BEING A CLINICAL LECTURE DELIVERED AT THE COLLEGE OF PHYSICIANS AND SURGEONS, APRIL 5, 1881.

BY DAVID WEBSTER, M.D.,

CLINICAL ASSISTANT TO THE CHAIR OF OPHTHALMOLOGY AND OTOLOGY.

GENTLEMEN:—This is the patient who came before you last week, and some of you may remember the diagnosis. It is a case of iritis, which, although severe a week ago, is now almost cured, and, as in the majority of instances, it is of specific origin. Upon examination, you will be able to see the deep injection around the cornea, now rapidly fading away, and the widely dilated pupil. You will also observe that the color of the iris is different from that of the unaffected eye—it has a greenish tint. The iritis had been in progress for a week or ten days before I saw the patient, and now about twenty-three days have elapsed since the beginning of the disease. Up to the time he came here, his eye trouble had been getting worse and worse, but since then it has steadily improved.

Having obtained a history of his case, which pointed to a specific origin, I directed that he should at once be thoroughly anointed upon both arms, from shoulder to elbow, with the common ungentum hydrargyri of the United States Pharmacopœia. In addition, you remember, I directed that he should protect his underclothing by cutting off the legs of a pair of old socks and drawing them over his arms and shoulders; otherwise, his clothing would have been daubed by this nasty application. It is always well to bear this practical point in mind in the treatment of these cases, for, by thus warning your patient, a very unpleasant condition of things will be avoided. About a half-drachm of the ointment should be "buttered" upon the arms, without trying to rub it in, every night and morning until the patient begins to feel its constitutional effects. He should not be allowed to wash or wipe off any of the ointment until the desired effect is produced. A very convenient way of determining this is to cause the patient to snap his teeth together rapidly, and if undue tenderness in the gums is experienced, it indicates that the constitutional effects of the drug have been obtained.* When this point is reached, it is time to stop the inunction and to instruct the patient to take an alkaline bath, and to have his clothing washed, so that no more ointment will be absorbed by the skin.

In addition the patient was directed to use a four-grain solution of atropine in his eye. Atropine, as I told you, is our sheet-anchor in the treatment of iritis. Unless it is used, adhesions are very apt to occur between the pupillary border of the iris and the anterior capsule of the lens; such adhesions are called *posterior synechiæ*. When formed, they interfere with the normal function of the pupil. If a healthy eye be exposed to a bright light, the pupil contracts; if darkness prevails, it dilates. When adhesions have taken place about the circumference of the pupil, no such contraction or dilatation can occur. If adhesions exist in the eye of a patient who has recovered from iritis, he will be much more liable to have recurring attacks of the disease than if there were no adhesions. The only way in which the recurrence of such attacks can be avoided is to perform an iridectomy—remove a part of the iris. By the vigorous use of a four-grain solution of atropia, we have prevented the formation of any permanent adhesions. Perhaps this would not have been accomplished had we used only atropine, or, in other words, except for the combined influence of atropia and mercury.

It is not wise to begin the internal administration of iodide of potassium immediately after the use of mercury is stopped, for, by so doing, a profuse salivation may be excited, and thus do the patient harm. It is well to allow a week to intervene. This practice is followed by some of our best practitioners. A good way to administer the iodide of potassium is in the form of a saturated solution, the dose being five drops in a little water three times a day after eating. The quantity should be increased to the extent of from one to three drops with each succeeding dose.* I have known patients to tolerate as many as eighty or ninety drops of the saturated solution of iodide of potassium three times a day, which is equivalent to three or four drachms of the drug, each drop representing a little less than a minim of the iodide. I saw a little child three or four years old, who, as I was told by Dr. Seguin, was taking a little more than a drachm of the iodide of potassium three times a day. The patient before you has only got up to seven or eight drops three times a day.

At first, when the patient was much worse than he now is, I directed the application of leeches to the temple. These, I think, had a good effect, and I want to call your attention to the good results which may be obtained from the application of leeches to the temple in cases of iritis. I would recommend their use whenever there is pain and whenever the case does not progress favorably. They should, in most cases, not be applied more than two or three times during the whole course of the disease, and usually not more than two at a time. I saw a lady to-day who had had seventy-five leeches applied to her temple within a month or two, for the relief of pain in her eye, and this, too, without any inflammation in the eye. You may be sure the lady was not benefited, but rather the reverse, by this excessive depletion.

In the case before you, improvement began as soon as the atropine had dilated the pupil; and as soon as the mercury had produced its constitutional effects upon the system the redness of the eyes became less, and now, as you can see, it has mostly disappeared—there is only a faint pinkish appearance of the eye. At present he does not see very well with the affected eye, owing to the paralysis of accommodation due to the use of atropine.

Sometimes we come in contact with the effects of the accidental use of atropine. Not long since a man who had received an injury to his eye applied for treatment at the Manhattan Eye and Ear Hospital. He was provided with a solution of atropine and a dropper, and instructed how often to use the drops in his eye. A day or two afterward an old lady

* Sometimes, however, your first intimation that the limit of toleration of the drug has been reached will be a strong mercurial fetor of the breath, a diarrhœa, or a persistent nausea.

* Until symptoms of the physiological effects of the drug show themselves. These are commonly either a coryza, an eruption, or a diarrhœa.

came to the hospital in a state of great mental excitement, stating that she could not see out of one of her eyes, and that she could assign no reason for the blindness. I had no idea that she was the wife of the injured man, but, during a course of cross-questioning, I happened to ask her the business of her husband, and she then stated that he had received an injury to his eye, for which he was being treated at the hospital. She also stated that she was in the habit of putting into his eye the drops which had been given him. This, of course, at once gave a clue to the case. Her mydriasis was, of course, due to having accidentally gotten some of the belladonna into her own eye. Such cases are not very infrequent. We see three or four cases of mydriasis every year due to the accidental instillation of a mydriatic; and when a patient comes to you with a dilated pupil, and there is nothing else the matter, you should always think of the accidental or intentional introduction of a mydriatic into the eye.

Speaking of mydriasis reminds me of an anomalous case which I have under treatment in private practice. The patient is a maiden lady forty years of age, who noticed that about a year ago her left pupil began to dilate without any known cause. It remained dilated for a month, and then the right pupil became dilated, and remained so for a while; afterward both resumed their normal size and then became dilated again. Since that time this alternate dilatation and contraction of the pupils in one or both eyes has continued. An eye-surgeon in Rochester saw the case early, and thought that the dilatation of the pupil was due to the accidental introduction of atropine into the eye. An interview with the lady convinced me that she was not a malingerer, and I sent her in consultation to a distinguished neurologist, who upon examination considered the curious phenomenon due to a displaced uterus, the patient complaining of uterine symptoms. She also complained of pain in the upper part of the back, neck, and in the lumbar region. A diagnosis of spinal irritation was made, and it was further given as the opinion of the consulting physician that the spinal trouble and the trouble with the eyes were due to uterine displacement or uterine disease.* I may say that this patient has considerable amblyopia, the vision being reduced to about one-fifth in each eye, without any visible lesion to account for it, the only departure from the normal being mydriasis and enlargement, with tortuosity, of the retinal veins.

### EPIDEMIC CATARRHAL CONJUNCTIVITIS.

This good lady tells us that she has had sore eyes for three or four days. Upon examination it will be seen that the conjunctivæ are a little reddened and swollen, and there is a little white matter to be seen in the corner of each eye. This lady is affected with a disease of the eye which is now epidemic in New York. Within the last fortnight I have treated in hospital and private practice not less than thirty or forty patients with the same disease—catarrhal conjunctivitis. I know no cause to assign for the disease, except it be due to the March and April winds and to the uncleanliness of the city, about which we have heard so much recently. The patient has suffered from pain, and, for the relief of this, she has applied poultices, which have, without doubt, aggravated her eye-difficulty. Notwithstanding, she states that the poultices afforded her relief. She has used bread-and-milk poultices and alum-curds, and has applied tea-leaves, which, being bound upon the eyes over night, constitute a poultice. Dr. Agnew formulates his belief in regard to poultices as follows: If you want to put an eye out, poultice it. When poultices are applied to the eye in cases like this, the ocular conjunctivæ will be found very much redder and more swollen than in those where no poultice has been applied. As a rule, in these cases the redness is usually confined to the under surface of the lid or to the palpebral conjunctivæ; but, in this lady, the latter will be found much paler and much less swollen than the ocular conjunctivæ. It is a typical case of catarrhal conjunctivitis aggravated by poultices. The white matter in the corners of the eyes and in the lower cul-de-sac is quite characteristic; it is not pus, but a slimy sort of mucus. If pus were flowing out in a considerable quantity, it would be indicative of purulent ophthalmia.

*Treatment.*—I will tell you what I have found to be the most effectual treatment in these cases. It is the following combination applied to the conjunctivæ in the form of a spray:

| | | |
|---|---|---|
| ℞. | Acid. tannic | gr. x. |
| | Sodæ biborat | gr. x. |
| | Glycerinæ | ʒ j. |
| | Aquæ camphora | ℥ j. |
| M. | | |

With a Davidson's atomizer, No. 55, this solution should be applied once daily to the everted lids. In using this solution in an atomizer, care will have to be taken to wash the instrument out with water each time after it has been used, in order to keep it in working condition. In addition to the use of the spray, the eyes may be bathed with a solution of salt in water, a teaspoonful to the pint. Some patients like to use water cold, some like it warm, and others prefer to have it hot—the temperature of the water is to be determined by the feelings of the patient; or the following wash may be used:

| | | |
|---|---|---|
| ℞. | Sodæ biborat | ʒ ij. |
| | Aquæ camphora | ℥ vj. |
| M. | | |

Of this a tablespoonful is to be mixed with a tablespoonful of hot water. This may be used for bathing the eyelids from three to five times daily. It requires to be freshly mixed every time it is used; and, unless you mention this fact, some patients who are not very intelligent will use the same water over and over again. As evidence that catarrhal conjunctivitis is not always dependent upon personal uncleanliness, I would state that I have seen within the last week four members of the present medical class, one oculist, and two general physicians with this trouble.

### CHALAZION.

This is the policeman from whose left lower eyelid we removed a chalazion last week. He is on hand again to-day to have another one removed. He says that there is one in the upper lid of the same eye which he wants out, for it "jumps terribly." For this operation a delicate knife (Graefe's) and spoon are required. The cyst is evacuated through the edge of the eyelid. A free incision is to be made into the tumor, and, with the lid between

* July 15, 1881. This patient was afterward examined by Prof. T. G. Thomas, M.D., who wrote as follows: "Miss X—— has a fibrous tumor of the uterus as large, or nearly as large, as your head. It extends up nearly to the umbilicus and is very tender to pressure. At the meno-pause it will diminish in size, but until then nothing can be done for it except general tonic means. This tumor is probably the cause of the eye-trouble."

your thumb and finger, the contents of the sac are to be scraped out with the spoon.

CONVERGENT STRABISMUS.

You will, perhaps, be able to make a diagnosis from a distance in regard to this young man's eyes. It is a case of convergent strabismus. You will observe that he fixes with the left eye and turns the right eye in. When I cause him to fix with the right eye he turns the left eye in. This is what is called *concomitant squint*. Now, this young man wants to have his eye straightened, and the question arises whether an operation for this purpose is justifiable. Let me, at the outset, warn you against operating for convergent squint before you have thoroughly examined the patient's vision; otherwise you may be the victim of a very unpleasant accusation. A patient upon whom you have operated may come to you after the operation and accuse you, and honestly too, of having ruined his eyesight, and, without having tested his power of vision in both eyes previous to the operation, you are in a somewhat defenceless position.

There are many intelligent individuals who have lived to adult life, who have been able to see well with only one eye, and yet are not conscious of any defect in their vision. I have seen several such cases, and have already published the history of a very remarkable example of this condition of affairs. The patient was a lawyer over thirty years of age, who consulted me about an operation upon one of his eyes. In the course of an examination, I found that he was so blind in the other eye that he was unable to count fingers in the central part of his field of vision, though he could do so with difficulty in the peripheral part of the field. Up to this time he had never noticed the fact that he could not see with one eye as well as with the other. He had most probably been born with this defect in his vision, as ophthalmoscopic examination showed an extensive plaque of atrophy of the choroid, including the macular region.

While in cases of convergent strabismus, not alternating or periodic, the eyesight is invariably impaired to a greater or less extent, I do not now remember ever having seen a case in which perception of light was lost. It not infrequently occurs, however, that such patients are so blind in the squinting eye as to be only able to count fingers. Defective vision, due to disuse, as is the case in strabismus, is spoken of in the books under the name of *amblyopia ex anopsia*.

We have already tested the vision of this young man and find it $\frac{20}{30}$ in his left eye, which is two-thirds of the natural vision. The ophthalmoscope reveals the fact that he has $\frac{1}{4}$ hypermetropia. In all cases of convergent strabismus we expect to find some degree of hypermetropia as the cause. When we examine a case of convergent squint, and find emmetropia, we consider it so rare that we forthwith rush into print with an account of the case. This patient is unable to count fingers with his squinting eye, but he can perceive light with it. There is, in his case, a cause for the amblyopia, and one which is rarely found in convergent squint. There is atrophy of the right optic nerve and of the choroid. He must have had some previous eye-trouble—perhaps a neuroretinitis in infancy. He tells me that his present trouble came on in childhood. I think he must have had some difficulty of this kind, and that it was followed by atrophy and squint. I have stated to him that I do not think the operation will improve his sight very much—perhaps not at all. In cases of strabismus, where there is no reason to the contrary, it is not uncommon to see an eye with vision $\frac{20}{100}$ improve after the operation to $\frac{20}{70}$ or $\frac{20}{50}$ within a week, but in this case we cannot promise any such improvement, because the optic nerve and choroid have undergone atrophy. Notwithstanding this, he says that he wants the operation performed in order to improve his appearance, and I sympathize with him. On this ground alone I think the operation fully justifiable, and would recommend to the patient to come next week to have it performed, as I learn that he has just eaten a hearty dinner of chicken and vegetables, and it would be very unpleasant to administer ether under these circumstances, for he would probably vomit his dinner. I make a practice of never operating upon a patient who has recently eaten a hearty meal, unless it is absolutely necessary. Then, too, there is another reason for not administering ether with a full stomach. You probably remember the case which occurred in Bellevue Hospital a few years ago. A patient, who was to be operated upon, was, a short time before the operation, surreptitiously given something to eat by some friends. During the administration of the ether the patient died, and it was found upon the post-mortem that he had choked to death, a large piece of meat being found in his throat.

# Original Communications.

## A CASE OF POPLITEAL ANEURISM,

IN WHICH THE LIGATURE WAS SUCCESSFUL AFTER THE FAILURE OF DIGITAL COMPRESSION; WITH TRACINGS, WHICH SHOW THE VALUE OF THE SPHYGMOGRAPH IN THE DIAGNOSIS OF ANEURISM.

BY N. P. DANDRIDGE, M.D.,

PROFESSOR OF GENITO-URINARY DISEASES IN THE MIAMI MEDICAL COLLEGE, SURGEON TO THE CINCINNATI HOSPITAL.

(Read before the Cincinnati Medical Society.)

FEBRUARY 2D, G. S——, was brought to the private ward of the Cincinnati Hospital, and placed under my care, by Dr. McCullough, of Catlin, Ill., from whom I learned the following history: Some eighteen months ago he received a wound from the accidental discharge of a pistol. The ball entered the outer side of the left leg about its middle, and coursed downward, but did not come out. After the accident he rode fifty miles on horseback, and when he dismounted, the leg was greatly swollen and he found he could not straighten it; it was flexed at nearly a right angle. The ball was not extracted. He was confined to bed for the next nine weeks, at the end of which time he was able to be up and about, though the leg remained much larger than the other, especially in the upper part of the calf. Motion in the knee-joint was completely restored. The return of motion was gradual, and not due to any forcible manipulation. Some two years ago he contracted syphilis, which has manifested itself in several slight outbreaks since. His health otherwise has been remarkably good.

He presented the appearance of a well-nourished, robust, healthy man. Over the legs some pigmented spots were found; these, with induration of the inguinal glands, were the only evidence of syphilis

manifest. His age was twenty-eight. His occupation had been that of a farmer. The left leg was larger than the right, measuring in the upper third fourteen and one-half inches, to eleven and one-half of its fellow of the opposite side. Encroaching upon the popliteal space from below was a pulsating tumor; this tumor above was distinctly circumscribed, and presented to the touch the impression of a thin and yielding sac; below its boundaries were lost in the general swelling of the calf. The bruit was distinct, though not loud, and the pulsation was markedly expansile. The movements of the joint were not interfered with, and, although some pain was present, it was not excessive, and did not interfere with his walking about. Pulsation was noticed in the tumor some two months ago, and since then the size of the mass has greatly increased. Dr. McCullough being obliged to return home as soon as possible, it was decided to try the effect of compression of the femoral at once. Digital compression of the common femoral against the pelvic bones was commenced the next morning, and continued for nine hours, with the effect of reducing the force of the circulation and producing marked consolidation in the sac. The circumference of the limb was reduced one inch.

The compression was made by a relay of assistants; the artery was controlled by the thumb, which was fortified by a conical shot-bag tipped with felt resting on it. The shot-bag was suspended by rubber tubing to secure continuous action, and, in order that the pressure should always be perpendicular, an upright iron bar passed to the bottom of it, and played freely through a ring between the tubes. The whole apparatus was suspended by a spring scale, so that the exact amount of the pressure could be seen at a glance. By this means the advantage of tactile sensation was secured, while nearly all muscular effort was spared, and frequent changes of assistants avoided. One assistant maintained continuous compression for an hour an a half. The compression was well borne; the only pain complained of being under the thumb, where the integument became reddened and irritated. This was due to neglect to shave the part; the inguinal glands also showed some effect of irritation. The result of this effort was reduction of the size of the limb one inch, marked consolidation of the sac, and diminution in the force of the pulsation. It clearly proved that the aneurism was still circumscribed and not diffuse, as had been supposed, for its boundaries could now be easily made out. We were thus encouraged to attempt a second trial, more prolonged than the first and under more favorable circumstances, after some days of rest in bed. He was therefore put on large doses of the iodide of potassium, and kept in the horizontal position for ten days. During this time the advantages gained by the first trial of compression were gradually lost, the pulsation again becoming stronger and the tumor softer and more yielding. While he was thus in bed, Dr. Keyt was kind enough to make a very complete set of sphygmographic tracings of the case. These tracings are given herewith, and I will defer consideration of them until the history is completed. February 13th, compression was again attempted and prolonged twenty-four hours. During the latter half of this time morphine was given hypodermically. This trial produced some exhaustion, which soon passed off. The effect was much the same as the first attempt—solidification of the tumor and diminution in the force of the pulsation. Flexion of the limb was now tried, but without effect, and finally the artery was controlled by a horse shoe tourniquet over Hunter's canal; this was so painful that it could only be continued for two hours. The advantage obtained by these trials was soon lost, and the tumor began to encroach more and more on the popliteal space, and to increase in size. February 23d, the femoral was tied at the point of Scarpa's triangle; the operation was conducted antiseptically, and catgut was used for the ligature. Pulsation at once ceased, and never recurred in the tumor; in the posterior tibial it was again perceptible at the end of a week. The wound healed slowly, with some suppuration, and locally did not present the course of an antiseptic case, though there was neither pain, nor fever, nor any constitutional disturbance. The aneurismal tumor became harder and firmer, and the man left the hospital April 5th, able to walk perfectly well on the leg. Although compression proved a failure in this case, I am satisfied the time occupied was not thrown away, but that it assisted materially in putting the man in the best condition for the success of the ligature. The statistics of Holmes seem to show that operations undertaken after compression has been tried are not quite so favorable as those which are performed immediately. The failure of compression in this case conforms to the opinion expressed by the above-mentioned author, that rapidly growing aneurisms, with thin and yielding sacs, are not favorable ones in which to effect a cure by compression.

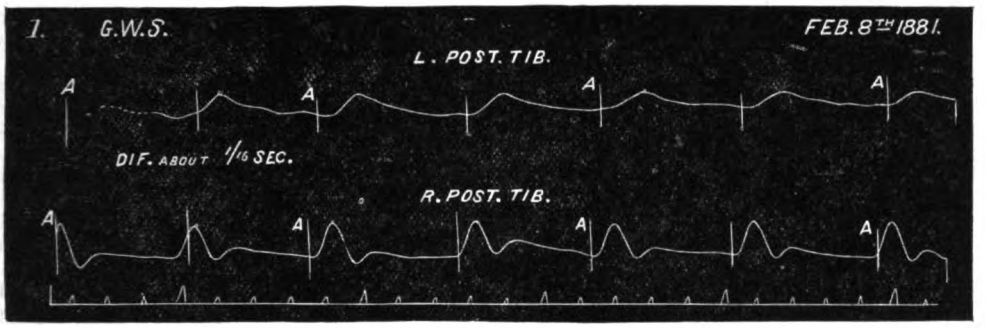
The contrast between the pain suffered from the two modes of compression was most striking—instrumental compression could only be endured for two hours, while the digital was maintained for twenty-four hours without any very great suffering. The relation of the aneurism to attacks of syphilis is of interest and importance. There is a general feeling that syphilis is an important factor in the production of aneurism. Many surgical writers speak of this relation as well established. The syphilographers are, however, much more guarded in their expression of opinion, and at the present time it cannot be said that the evidence on this point has reached more than a plausible hypothesis. The question is one of importance, involving, as it does, the propriety of using antisyphilitic remedies, and especially mercury. In the case just reported, mercury, and not iodide of potassium, was indicated from the first stage of the disease, but was not used for fear it might hinder the formation of the clot. In this I am by no means sure I was not in error. I have not been able to find any authority upon the subject. It is difficult to understand any relation between the wound in the leg and the formation of the aneurism. Its position was such that it could not possibly have affected the artery, while the leg was gradually straightened so there was no overstraining or stretching by any forced manipulation.

The tracings given are very complete, and show, in a typical manner, the characteristic deformation of the pulse from aneurism, and indicate how reliable a means it may be for diagnosis in doubtful cases. I am indebted to Dr. Keyt for the tracings themselves, and for an explanation of their significance. They were taken by his compound sphygmograph, by which tracings of arteries on opposite sides of the body are recorded at the same time, thus offering for comparison, side by side upon the same slide, the normal and the affected pulse.

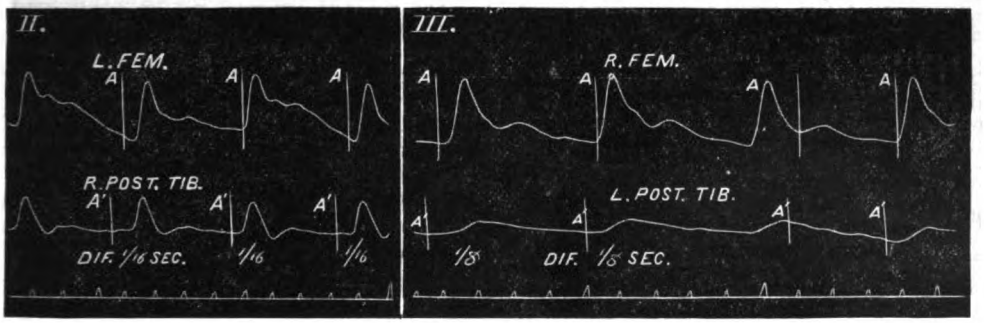
No. I. Traces of the two posterior tibial arteries, taken simultaneously behind the malleoli. The left is typically deformed, showing the sloping ascent, rounded top, and imperfect marking of the secondary

waves, and marked delay of the left on the right, which is the normal pulse. This delay is $\frac{1}{16}$ sec.

Nos. II. and III. are confirmatory of the correctness of this measurement. No. II. shows simultaneous tracings of the left femoral and the right posterior tibial, and thus gives the delay which normally ex-

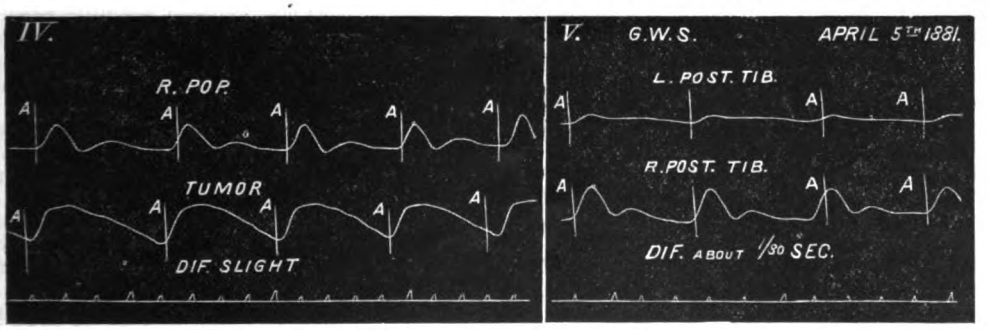



ists between these arteries; here it is $\frac{1}{16}$ sec. No. III. shows the tracing from right femoral and left posterior tibial, and gives a delay, $\frac{1}{8}$ sec. Subtracting $\frac{1}{16}$ from $\frac{1}{8}$, it leaves $\frac{1}{16}$ as the amount of extra delay caused by the aneurism. This is the amount found by comparing the two posterior tibials.




No. IV. Tracings of right popliteal and tumor, showing rounded top, absence of secondary wave, and slight delay in the tumor.

No. V. Posterior tibial arteries after the return of the circulation in the left through the collateral circulation, amplitude greatly diminished, and delay $\frac{1}{30}$ sec.




The delay of the collateral circulation is not nearly so great as that of the aneurismal tumor.

These tracings show that deformity and delay are both found in the pulse beyond an aneurism; the latter is especially characteristic of this condition, and when it is present may be considered as a conclusive sign of aneurism, with certain rare exceptions. This delay is only apparent where simultaneous tracings can be taken, and is determined by "comparing the apex of the waves of the two pulses."

Dr. Keyt, in a paper which appeared in the MEDICAL RECORD, November 29, 1879, in estimating the diagnostic value of sphygmographic tracings in aneurism, says:

"1st. Deformation of the pulse beyond a suspected aneurism is of little value as indicating the presence of aneurism, but indicates rather the presence of arterial obstruction which may originate from other conditions, as well as from aneurism. Absence of such deformation is no evidence of absence of aneurism.

"2d. Delay of the pulse beyond a suspected aneurism is strong evidence of the presence of aneurism, and, when arterial obstruction and vaso-motor paralysis can be eliminated, is conclusive of aneurism; absence of delay is of no value as indicating the absence of aneurism.

"3d. In aneurism already diagnosed, deformation of the distal pulse indicates the presence of concomitant arterial obstruction.

"4th. In aneurism already diagnosed, delay of the

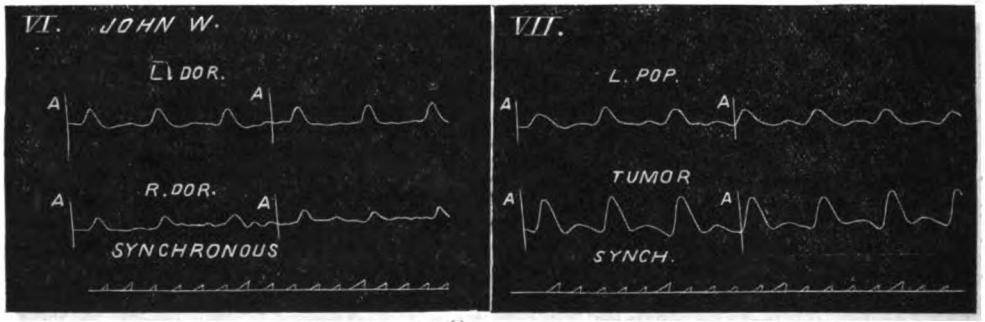
free distal pulse indicates one with free communication, large cavity, and yielding walls; while absence of pulse-delay indicates one with narrow orifice or small cavity."

The delay of the wave in aneurism has been studied and experimentally explained by Franck, in the *Journal d'Anatomie et Physiologie.* By means of an ingenious contrivance he has shown that a wave passing through an elastic tube is markedly delayed, provided there is a sudden expansion of the tube at any part; these are the conditions of an artery affected by aneurismal dilatation.

Passing down the artery, the pulse-wave must fill and expand the dilatable aneurismal sac before it proceeds.

One more important diagnostic factor is given by the pulse-delay. Dr. Keyt's fourth conclusion shows that marked delay indicates an aneurism "with free communication, large cavity, and yielding walls." Now, these are the aneurisms which are the least likely to be treated successfully by compression, as shown by the tables of Holmes; while absence of delay, where the diagnosis has already been made, indicates an aneurism with "narrow orifice or small cavity," or unyielding walls. Here the conditions are all favorable for successful compression.

The sphygmograph may therefore offer an important means of estimating the probable result of compression in a given case.




The exact position of the aneurism and the artery affected can often be determined with greater accuracy by this than by any other means. Thus, in determining whether a given aneurism is situated upon the ascending aorta, or on the innominate, or on the transverse aorta: if the innominate is affected, the right radial will show the characteristic deformity and delay, while the left will be normal. If the ascending aorta is the seat of disease, both radials will be alike affected; while, if the aneurism is beyond the mouth of the innominate, the left only will be deformed. These points are all brought out in Franck's essays.

The above conclusions received additional confirmation from the following case, where neglect to appreciate the significance of the sphygmographic tracings led to the grave error of operating under a mistaken diagnosis, where no aneurism was found.

J. W——, aged twenty-four, entered the Cincinnati Hospital, August 3, 1879, for a gunshot wound in the right popliteal space, which had been inflicted the day before by a policeman. The wound was about one-third of an inch in diameter, there was very little hemorrhage, no swelling, and the joint was painful on motion. The leg was placed flexed upon a pillow, and cold applied. The case progressed favorably, without any marked symptoms for some days, so that it did not require any special attention beyond being kept quiet in bed. August 15th, twelve days after admission, my attention was called by the interne to a pulsating tumor in the popliteal space, which he had discovered the day previous. On examination a swelling was found presenting a marked bruit, characteristic thrill to the touch, and expansile pulsation. The circumference of the knee semiflexed was one and one-eighth inch greater than that of the opposite side, measuring fifteen and three-eighths on the right, and fourteen and one-half on the left. This swelling extended down the calf, which measured, right, thirteen and six-eighths; left, twelve and one-half. To the hand on the tumor it imparted the sensation as if fine shot were rolling under the fingers. Pressure on the femoral artery stopped the pulsations completely; forced flexion only partially. The symptoms and the history seemed clearly to point to a traumatic aneurism as the cause of the trouble—a swelling with marked bruit and thrill, and expansile pulsation, developing gradually in two weeks after a gunshot wound directly over the popliteal artery. The case was seen by the surgeons of the hospital, and by a number of other medical men, and no one expressed the slightest doubt of its character.

It was decided, therefore, on consultation, to treat it as a wound of the artery, and to place a ligature above and below the seat of the supposed injury. August 19th, the Esmarch bandage was applied, and an incision was made in the popliteal space, taking the gunshot wound as the centre. The track of the bullet was soon lost; the artery was exposed, but presented no evidence of aneurism or wound. The incision was prolonged above and below, and the vascular cord was exposed for fully two inches, but nothing was found to explain the symptoms. Owing to the use of the Esmarch bandage, we were deprived of the benefit of the pulsation of the artery, which would have served as a guide; but, fearing hemorrhage, we were afraid to loose it during the search for the aneurism. During the dissection the artery was wounded, which necessitated a double ligature above and below. This ligature, which was of catgut, completely controlled the pulsation when the Esmarch was removed, and so we were still left completely in the dark for an explanation of the case. The operation was made under the spray, and an antiseptic dressing applied; this was, however, very imperfectly done. The case progressed favorably until the 21st, when the temperature rose to 102°. The dressing was removed, and the edges of the wound were found swollen and tense, and some bloody serum escaped from the drainage-tubes; there was no odor, and the general condition was good.

On the 25th, the seventh day after the operation, a violent hemorrhage came on, which necessitated removal of the dressings. This was finally controlled after a severe loss of blood. No healing had taken place, and the wound was found filled with blood and shreds of sloughing tissue.

The cause of the hemorrhage was the melting down of the catgut ligatures before the artery had been occluded. Silk ligatures were now used, and the vessel cut through between them. As we were about to close the external wound, some pus welled up from the lower end. This was found to come from an abscess which extended down the calf. This was laid open by extending the original incision until it was eight inches long. This abscess I believe arose subsequently to the operation, though it is possible that it may have existed previously, and given rise to the symptoms of aneurism by transmitting the pulsation and bruit from an underlying artery.

Whether this is the correct explanation or not, it is certain that during the operation we found neither wound of artery, aneurism, or abscess, nor, indeed, any condition which could explain the symptoms, which had existed. The result of the case for some time remained doubtful. A large slough formed over the instep, which destroyed the tendon of the tibialis anticus, and an abscess formed in the calf.

The man left the hospital at the end of about six months, with a leg saved, it is true, but permanently impaired. Before the operation, Dr. Keyt took tracings of the dorsalis pedis artery of each foot. It will be seen that they do not present any of the characteristics of the aneurismal pulse; there is neither deformity nor delay.

No. VI. Tracing of right and left dorsal arteries in a case of supposed traumatic aneurism of the popliteal artery, but which was probably an abscess. These pulses are synchronous, and show none of the characteristics of aneurism.

No. VII. contrasts the pulsation in the tumor and in the popliteal of the sound side; comparing this tracing with No. IV., the difference is most marked. There the tumor tracing shows a slanting ascent, rounded top, and absence of secondary wave; while in No. VII. the ascent is abrupt, the top of the wave sharp, and the secondary wave well marked, and there is decided increase in the amplitude as compared with the opposite side.

Had I appreciated the significance of these tracings, it is possible I might have avoided the error I committed in operating. In another case, even when the ordinary symptoms of aneurism are all present, I shall hesitate to operate if the characteristics of the aneurismal pulse are absent, as shown by the sphygmographic tracing.

These two cases supplement one another: the first gives an example of a perfectly typical tracing in an undoubted aneurism, while the second shows that the absence of the characteristic tracing may well throw doubt upon the diagnosis in a given case, even when all of the other symptoms seem conclusive.

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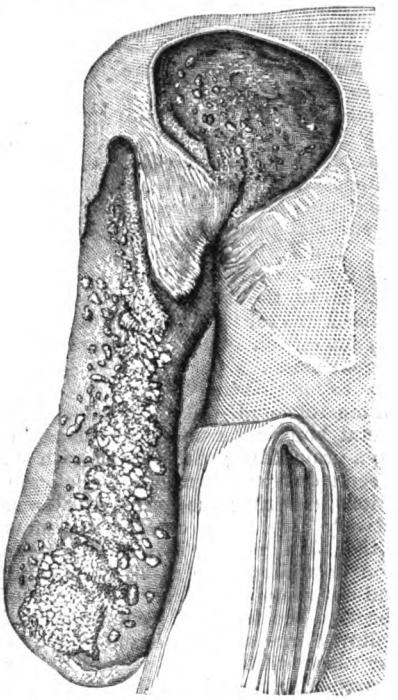
GELSEMIUM SEMPERVIRENS IN NEURALGIA OF THE ALVEOLAR BRANCHES OF THE TRIFACIAL.—Dr. Roviralto endorses the use of gelsemium sempervirens in neuralgiæ of the alveolar branches of the fifth pair. Giving it in doses of ten to twelve drops (!) of the tincture to a cup of sweetened water, he has obtained gratifying results in obstinate cases.—*Rev. de Med. y Cir. Pract.*

## SKIN-GRAFTING WITH GRAFTS TAKEN FROM THE DEAD SUBJECT.

By JOHN H. GIRDNER, M.D.,

NEW YORK.

CHARLES JOICE, aged ten years, who lives in Morrisania, is the original of the photograph from which the accompanying cut was made. In the latter part of June, 1880, while sitting on a door on which there



was a steel hinge, he was struck by lightning, and became comatose, in which condition he remained for several hours. He was brought to Bellevue Hospital and placed in Ward 12, at that time under my charge. When his clothes were removed the skin came off his left arm and scapula, leaving the large raw surface seen in the picture. This surface was treated by different means for some weeks, until a healthy granulating surface was obtained all over the affected part.

About this time, a healthy young German, who had attempted suicide by cutting his throat, was brought to the hospital, and died within a few hours. Six hours after his death, I went to the dead-house and removed a portion of skin from the inner side of the thigh, where there was least hair, and the skin most delicate. Having cut this piece of skin into a great many small pieces, I applied them and dressed the surface after my own method, which is to apply first, next to the grafted surface, a piece of the green protective used in Lister's dressing; over this I strap the ulcer with ordinary rubber or adhesive plaster, and over the whole throw a roller loosely. The object of the green protective is to prevent the grafts from adhering to the plaster and being torn off when the dressing is removed. The strapping is simply to make pressure, which must be firm and evenly applied.

After the dressings had remained on for four days, they were removed, and after some little discharge

had been washed off, I had the patient photographed. About one-fourth of the grafts had failed to take, and were washed off when the wound was cleansed. The remainder have attached themseves to the ulcer, and, as will be seen from the cut, the lower and central portions of the ulcer on the arm are already covered with a thin, delicate skin, as a result of the fusing together of the little islands of skin, each graft serving as a point of departure for the formation of these islands. As in other and similar cases, cicatrization would have doubtless gone on to complete cure in a short time, but for an attack of erysipelatous inflammation, resulting from the low condition of the boy's general health, and his exposure to other cases of that disease, which destroyed a large portion of the newly formed skin, requiring subsequent graftings, but finally resulted in a cure, with much less of contracting cicatricial tissue than is commonly witnessed after recovery from such extensive burns.

Skin and mucous membrane removed from the living in surgical operations have been often used for grafts. But I wish to state here my claim, that the idea of removing skin from the cadaver and grafting it on to the living subject is original with me, and that I was the first to perform this operation, which has since been done many times successfully by other gentlemen.

It seems to me that any one who has witnessed, as I have done repeatedly, skin taken from the dead body several hours after death return again to life, adhere to a granulating surface, and with surprising rapidity send out prolongations of delicate skin in all directions, covering the surface with a new skin comparatively free from contraction, must agree with me that skin-grafting is in its infancy, and that when men of ability have given it more attention, and found out the possibilities of the proceeding, we may expect to see frightfully contracting cicatrices which follow burns and nævi removed by excision, and their places filled with a skin almost as perfect as the surrounding, and which has been removed from the dead or living body of another person.

## THE VOICE AS A THERAPEUTICAL AGENT.

By R. VAN SANTVOORD, M.D.,

NEW YORK.

During one of the sessions of the American Laryngological Association, held in this city a year ago, Dr. Knight, of Boston, asked the association by what principle its members were guided, when treating laryngitis in singers, in allowing them to resume the use of their voices. Although many prominent laryngologists were present, he received no answer. It seemed somewhat remarkable that so eminently practical a question should not have received a definite solution from the members of the profession there present. It is the object of the present paper to give an answer to this question, founded on certain well-established principles in therapeutics and on the practice of singers when suffering from slight catarrhal inflammation of the larynx.

In the treatment of an acute inflammation of a mucous membrane, the conjunctiva for example, it is well known that irritants are harmful during the active stage of the process; during the latter stages of the disease, however, they are useful. These therapeutical results demonstate that we are dealing with two very different states of affairs. The so-called "latter stages of the disease," in fact, are not, properly speaking, stages of the disease at all. The active process has ceased, leaving the membrane with relaxed blood-vessels, encumbered perhaps with the products of inflammation and badly nourished. The effect of the application of an irritant is to rouse the sluggish circulation, and thus to promote the absorption of morbid products and restore the nutrition of the part. We find an exact parallel to this process in the use of motion in the treatment of articular rheumatism. So long as the joint is spontaneously painful and tender, motion aggravates the disease. When, however, the acute stage is passed—when, in fact, the disease is gone and we have to deal only with its effects, motion of the affected joints, carried on within due limits, restores the nutrition and functions of the parts. But, in either case, if the remedy—the astringent or the motion—is used in excess, it will rekindle the original evil.

Now, the use of the voice is to inflammation of the tissues of the larynx exactly what motion is to inflammation of the joints. During the active progress of disease, its use is decidedly and unequivocally harmful. The acute stage of a catarrhal inflammation is, however, short. When the acute stage is past, the moderate use of the voice may be made as a very valuable therapeutical agent. Well-trained singers know that when their voices are a little husky as the result of a cold, that the voice may be "cleared" by practising a few simple exercises in notes well within their compass, and sung with very moderate loudness.

The advice to a singer to use his voice must, however, be given with great caution. The efficiency of the remedy depends on the discretion of the individual singer, and, above all, on his *method of singing*. Many singers, as is well known, have grave faults in their mode of using their voices. Indeed, comparatively few are even approximately faultless. A faulty method of using a voice is directly provocative of inflammation. If a singer whose method is very defective is under treatment, the advice to "use his voice" will result, probably, in an aggravation of his malady. The writer has, in his own person, frequently experienced the beneficial effect of a moderate use of the voice, in the way above indicated, when suffering from the effects of slight laryngeal catarrh. He is convinced, furthermore, that he has eradicated, to a great extent, a tendency to such attacks by using his voice systematically in singing during a period of some months.

The evils resulting from a faulty method of using the voice, and the necessity of recognizing it as a source of disease, could not be better illustrated than by the following case, which has come to the writer's knowledge: A young and robust clergyman became almost unable to use his voice in public speaking, and was under the treatment of a throat specialist in this city for a long time, without being benefited. He was even brought before the Laryngological Society, but no one who saw him could account for the obstinacy of his trouble. He finally went to a singing-teacher, who taught him in a short time to use his voice properly. The result was that his symptoms disappeared, and he can now speak for an indefinite time without weariness. The writer's information regarding this case comes from lay sources, so that he cannot state what lesions were observed. The fact that the patient was a fine instrumental musician probably aided him in recognizing his defects when pointed out, and in remedying

them. The obvious corollary of this case is that the physiology of the voice has not received the attention which it should receive.

In order to give intelligent advice in regard to the use of the voice, the physician should himself be a vocalist, or at least should have a sufficiently well cultivated ear to be able to detect grave errors in his patient's mode of singing. The writer cannot pretend to have a sufficiently thorough knowledge of the subject to speak with entire confidence as to exactly what are the faults, in the use of the larynx and its appendages, which give rise to irritation of the parts. The physiology of the voice is a field in which, from his own study of the matter in the cultivation of his own voice, he believes there is still much to be done. Physiologists who are not thoroughly trained vocalists are not competent to study the subject, because they are apt to mistake faults in the employment of the vocal organs for essential features in the physiology of the production of the voice. The writer is convinced that errors have crept into some standard works on the subject, because observers have not always had the knowledge requisite to enable them to select fit subjects for study.

It can at all events be stated, without fear of contradiction, that the commonest and probably the gravest of faults in the use of the vocal organs consists in the violent dragging up of the larynx during the production of a note. This dragging up is associated with a general rigid contraction of all the muscles of the pharynx. It is this which gives the so-called "throaty" quality which is so common among untrained and badly trained singers. This method of singing soon causes the voice to become weary and husky, probably from interference with the circulation of the blood in the parts.

It can probably be laid down as a rule that if, on asking a patient, who is suffering from laryngeal inflammation, to sound a note, the larynx is observed at once to rise, the use of the voice by that patient will only aggravate the disease. This observation of the position of the larynx during vocalization may prove to be a sufficient guide, to those physicians who have not been sufficiently educated in vocal music to know, from the quality of the notes sung, whether the singer's method is faulty enough to prohibit the use of his voice as a therapeutical agent or not.

The writer does not wish to be understood as advocating the use of the voice in cases of grave structural changes in the larynx. The above remarks apply *only* to patients suffering from the latter stages of acute or from chronic catarrh of the larynx.

In treating a patient who is a vocalist, suffering from catarrhal inflammation of the larynx in its later stages, the physician should ask him to sing a few notes. If the physician is fortunate enough to have a cultivated ear, he can tell in an instant whether the patient sings with a forced, "throaty," smothered voice, or in a full, easy, natural tone. If the physician cannot make this distinction, he may possibly get a tolerably reliable indication in the movement of the larynx, as above suggested. If the voice is properly used, its employment, as above indicated, will prove directly curative. When a patient, whose vocalization is very defective, asks when he ought to begin to use his voice again, the answer, if given with perfect honesty, should be: "Never, unless you put yourself under a competent instructor, and learn to use it properly."

In concluding this paper, the writer desires to state that he does not claim to have advanced anything new or original. The facts on which it is based are generally known, and will probably be new to very few who peruse this statement of them. There seems, however, to be a tendency to study disease from a purely pathological standpoint, and in practice to lose sight of commonly known facts which are of the greatest service in the cure of patients. It is just this kind of information which is apt *not* to get into text-books. It does not seem superfluous, therefore, to bring it forward occasionally, although the so doing does not add anything to the aggregate of knowledge.

26 East 125th Street, July 12, 1881.

# Reports of Hospitals.

## HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA.

### Service of Dr. WILLIAM PEPPER.

### CLINICAL REMARKS ON EPILEPSY.

To-day I desire to offer a few remarks on the treatment of epilepsy. At first I will ask your attention to a few different types.

Here, for instance, is the case of a young man, aged eighteen; his head has been noticed to be large since his fourth month. He has never been well—always more or less delicate or sickly. It is a case of chronic hydrocephalus, not rickets, but the enlargement is due to a serous effusion into the ventricles of the brain, or it may be on the surface of the brain. The square protrusion of rickets is lacking, but we have the high, spherical development and depression of the orbital plates. We also notice the contrast between the large brain-case and the comparatively small features. We find no traces of rickets at the end of the long bones, nor at the ribs.

It is a state of chronic hydrocephalus which has been arrested and resulted in a prolongation of life. He is now eighteen years old. Sometimes such patients live to adult life, and even to middle age, the individual being possessed of moderate mental powers. The father and mother are both healthy, but the mother had chorea at the time of his birth. Of their eight children all are healthy but William, our patient.

He has been having fits since his eighth year. His first attack lasted several hours. During the last month his fits have become more frequent; whereas, formerly, he had about three fits a month, he now has had nine within twenty days. The attacks come on suddenly, without warning. He immediately loses consciousness. Sometimes the disordered muscular movements are so brief that they scarcely attract attention, and at other times they are very violent and prolonged, and he is tossed about and almost torn to pieces by the violence of the attack.

The fits are connected with organic disease of the brain, and consequently we speak of them as symptomatic. There is a positive lesion in this case, viz.: the distention of the ventricles, which gives rise to constant irritation by pressure on the motor ganglia at the base of the brain. It is probable that in the first convulsion a rupture took place of some of the motor fibres of the left side, which caused a right-sided hemiplegia from which even yet he has not recovered. It is quite possible that

owing to the pressure, the meninges have become somewhat roughened, and this may play some part in the production of the fits. Here we have an organic disease of the brain exciting the fits as a symptom. Diseased conditions need not be at the base of the brain, nor yet in the spinal cord, for us to have symptomatic epilepsy.

The next case is a gentleman twenty years of age, who presents a most interesting condition, and demands our utmost consideration. He is healthy, strong, has had no constitutional disease, but had remarkably bad luck in regard to falls and blows on the head. Ten years ago he got a blow with a club on the right side of the head, which knocked him unconscious. Later than this, about eight years ago, he was thrown out of a wagon and struck on his head. Four years ago he had a somewhat bad attack of typhoid fever. About eight years ago he fell on the ice and was insensible for two hours. All of the family are healthy.

The first fit occurred seven years ago, when he was thirteen years old, some months after he had fallen on the ice. From that time he had no fit until June, 1880, when he was unconscious for one hour and a half. The third fit occurred on the third of the following October; the fourth on the first of March, 1881; while the fifth and sixth have occurred respectively on the second and the twelfth of April. Lately he has noticed that after exertion he has slight attacks. On a few occasions only he has had a distinct aura, which began at the base of the chest.

Examining his skull we find no depression of bone nor signs of a fracture, nor can even a scar be found. It is therefore very difficult to determine the precise nature of the cause. We have distinct epileptic attacks combined with the petit mal.

It is often very difficult to determine in such cases whether the attack be an essential epilepsy or symptomatic of some local lesion about the head. We are all liable to epileptic attacks. Reflex excitability resides in all. The more healthy the nerve-tone, the less liable are we to have morbid muscular movements. As the nerve-tone is impaired a morbid excitability of the nerve-centres presents itself, and then also do we meet with the irregular muscular movements.

Irritation from undigested food in the intestinal tract, the presence of worms in the intestines, a tooth pressing on a tender gum, or a splinter in the matrix of a nail, all may cause violent convulsive movements—a reflex fit. If, in addition to this source of irritation, we have weak nerve-centres, then the fits are more likely to occur, and yet more likely if the irritation is nearer to the nerve-centre. When the centres become abnormally excitable, we have a state predisposing to convulsions. This predisposition may be so marked that the slightest irritation may cause the fit. This last condition described is sometimes a congenital affair, affecting certain parts of the nervous system more than others. It is a morbid state of the nervous centre, which may be acquired after typhoid fever, may come from malnutrition, from anæmia, from overwork, from depressing passions; all may breed the morbid condition that is at the root of epileptic convulsions.

A blow on the head may produce these convulsions, a spicule of bone may cause the irritation, while concussion may so impair the molecular structure of the brain that the organ becomes permanently injured. With such conditions there is developed an increased susceptibility to nervous irritation. Here in this case it is exceedingly important to determine which of these two causes exist, as on them depends our treatment.

In examining epileptic patients it is very necessary to find out distinctly and definitely when the first attack occurred. In proportion as the attacks occur earlier in life, the more probable is it that they have a congenital origin.

This lad is fifteen years of age; as a boy he was unusually bright, active, and energetic; he went into everything with his whole soul. In the summer (May) of 1879, while he was playing in the midday sun, he had his first fit. Since then he has had a number of these attacks. He has been under the regular epileptic treatment, and has improved only temporarily.

Latterly the epileptic attacks have been mixed up with morbid excitability of the nervous system, as manifested by restlessness, talking at night, and other phenomena of irritation. With this there was evidently serious impairment of nutrition. This patient probably overtaxed his nervous system, and his nutrition was impaired to a great extent, when some sudden excitement brought on the attack.

Unfortunately, there is a possibility of his having had an attack of true sunstroke, and I have often seen convulsions following sunstroke when a meningitis has been caused, the subacute meningitis occasioning fits in after-life. Probably, however, as the boy worked hard and grew thin, the convulsions are functional—are due to a state of malnutrition.

We have now seen instances from the worst to the best, cases of convulsions occurring under widely different conditions—all included under the name of epilepsy.

Let us look for a few minutes at the treatment from a general point of view.

In the first place, when you see a case, look for the cause, and see whether it is remediable. Sometimes we find a depression of the skull; such cases should be trephined at once, and the condition of the bone examined. Whenever you can locate the seat of injury, use the trephine; the operation is rarely followed by any trouble. The study of localization by means of the fact that injuries at certain points give rise to more convulsive movements than is observed in others, may prove a valuable guide. Generally you must have a depression or scar before you trephine. Sometimes, when the bone has not been injured, the trephine has proved to be of great benefit. In our second case, although I think that the symptoms are due to pressure, I am unable to locate its seat.

In the third case, his condition is certainly predisposed to it: insufficient body-weight, in proportion to his height and age; he has positive anæmia, and a want of actual muscular strength combined with a constant irritability—a muscular restlessness; his feet and hands are cold, his pulse weak, the tongue coated, bowels irregular; the food is not properly assimilated; the urine gives evidence of this, by being constantly charged with the phosphates.

Perhaps some of you may remember that I showed you last spring a case of epilepsy, with gastric aura, in an anæmic, thin, weak young man. He had received a heavy blow on the back, and he had begun losing ground; his health was impaired, and he became epileptic. His family were all remarkably weak. His brother had just recovered from incipient phthisis; his sister had chorea; his father was in bad condition. Placing him in bed, on a rigid milk diet, beginning with small quantities of milk, gradu-

ally increasing it until he took three quarts per day, he appeared to be absolutely cured. He gained thirty pounds during that period, and is now a well, vigorous, and hearty man. Since February 13th he has had no epileptic seizures. The only thing medicinal he took was minute doses of nitrate of silver, which were given him for its action on the gastric mucous membrane, as he was suffering from gastric catarrh.

Sometimes it is necessary to change the individual's whole mode of life. Total change of climate will sometimes cure our patient, when combined with suitable diet, etc.; but rest in bed is one of the most useful means, together with a most radical and rigid diet, until we get the system purified, and then we may increase the diet. Such a treatment works a change in the molecular and chemical conditions of the body, and so we get some of the most complete recoveries, not only from this disease, but also from a very large number of chronic diseases.

This lad (Case III.) has been in bed for two weeks, and in that time he has gained four and one-half pounds. He has been taking nothing but milk, a little mush, and a small amount of phosphoric acid.

He now weighs ninety-six and one-half pounds. I will keep him in bed on his present diet until he weighs one hundred and twenty pounds, and then will send him to a different climate. Before he had been put on this treatment, he had been taking bromide of potassium, with the result of making him more anæmic.

In the second case, I also consider that a treatment involving a great deal of rest, and a very radical and rigid diet, is of the utmost importance.

Suppose there is a thickening of the membranes, and we do not know it, and these infernal attacks are continually occurring, and we keep on with our remedies—those of which so much has been said—as the attacks grow more frequent; the bromides are given in larger doses, yet they do not control the fits; then we must discard such measures, and place him on a rational treatment. I do not wish to say that the bromides are not to be used; undoubtedly, they are of very great importance. They have entirely changed the face and treatment of epilepsy, but too often we drop all other remedies for the sake of this one drug. Too often do we push the bromides to the stage of bromism, and at last the constant state of depression is worse than the epilepsy. At last, no amount of the bromides, even if given to the extent of an ounce or two a day, will control the excitability of the cerebro-spinal axis.

There are some men—men who live, not in the large cities, but in obscure, almost unknown country towns—who have great reputations from having cured large numbers of epileptics. When asked to send prescriptions they never do it, but require the individual to come to them. The country air and the surroundings are undoubtedly the chief agents on which they rely. Their secret remedies always prove to contain the bromides. Large sums of money have been paid by governments and states for the secret of the noted preparation, and always the most conspicuous remedy has proved to be the bromide, combined perhaps with an antispasmodic, as valerian or asafœtida. The secret of their cure lies more in the hygienic surroundings which they insure for their patients than in any medicine which they profess to give.

There are certain indications which call for the use of the bromides. After we have done what we can by hygienic measures and the like, and find that we cannot control the attacks, then the bromides will relieve our patient greatly, causing the fits to be slight and infrequent.

In cases like the second, where there possibly is some active inflammatory element, after we enforce a radical course of hygiene, and the system is in good condition, he will be placed on the bromides, with a fair prospect of good being derived from them. If the epileptic seizures are the result of sunstroke, we should give the mild chloride of mercury and potassium iodide.

In the third case the calomel and potassium iodide, if given in small quantity and for a long time, may give great relief. In the second case we may also use nitrate of silver with great benefit. A second set of cases where this drug has proved of great relief to epileptics are those in which the fits were caused by a morbid irritability of the mucous membrane of the stomach. It has also proved of immense service where there were irritations about the brain of a removable character.

All the cases of nitrate of silver poisoning which I have seen were in epileptic patients. In order to avoid this unfortunate occurrence, we intermit treatment for a week or two. As I have frequently noticed, nitrate of silver, when given for some time, causes a blue line on the gums. If the treatment is then persisted in, the blue skin will make its appearance. This blue line is a perfect guide in the administration of the silver salt. As soon as the line shows itself the remedy should be immediately discontinued.

In the second case, I will put him at rest on a radical diet, with nitrate of silver; I will have his head shaved, and again see if I can find anything. In addition to these remedies, we find other cases where general tonics are particularly important. Thus, large doses of iron have been in some cases of especial benefit.

## COOK COUNTY HOSPITAL, CHICAGO.

### Service of HERBERT KENDALL, M.D.

### SARCOMA OF SPLEEN.

Michael R——, American, thirty-three years of age, a painter by occupation, was admitted to Cook County Hospital, April 22, 1881. Family history shows no hereditary tendencies to disease. Patient always enjoyed excellent health until four years ago, when he had a "malarial attack," lasting about three weeks, which, however, was not of a severe type, as he continued working at his trade. Made a good recovery with drachm doses of coal-oil, taken three times daily for treatment. Since that time until present illness commenced he has enjoyed the best of health. Has been living in a malarious district of Mississippi. Six weeks prior to admission, began to be troubled with cephalalgia, malaise, and constipation; the latter was obstinate, would not yield to cathartics. Very soon he began to complain of soreness and pain in the epigastric and left hypochondriac regions. Pain was constant and of a dull, aching character, aggravated when lying on the right side; somewhat relieved when walking, or when pressure was made. During the first week of his trouble he noticed a swelling in the left hypochondriac and lumbar regions. The above-described symptoms continuing, patient thought a change of residence might be beneficial, and came to Chicago four weeks ago. Gradually getting worse, four days prior to admission he was obliged to stay in bed

altogether; previous to that time had been able to be about the house a part of the day.

*Admission.*—Dorsal decubitis. Presents an emaciated, cachectic appearance. Face has an anxious expression, as of one having suffered acute pain. Says he has been unable to sleep for five or six days. Has a short, hacking cough. Appetite is poor. Has been taking fluid food only. Tongue has a thick, brownish coating. Bowels obstinately constipated. Patient is irritable, easily disturbed by noise. Complains of severe pain in the left side. Temperature, 102.8°. Pulse and respiration augmented. By physical examination, find heart, lungs, and area of hepatic dulness, normal. Find a hard, nodular tumor occupying the left hypochondriac and lumbar regions, extending from mammary line of sixth rib to inguinal region. Patient was given sufficient morphine hypodermically to relieve pain; ten grains of quinine, and ordered,

℞. Ferri. sulph.,
Quiniæ sulph.,
Ext. hyoscyami..... ãã grs. xxx.
Mass. hydrarg.,
Aloes pulv.,
Ext. nucis vom..... ãã grs. xv.
M. ft. pil no. lx. Sig.—Two pills three times daily.

The following morning temperature was 100.2°, pulse 102. Evening: temperature 102°, pulse 108. Was again given ten grains of quinine and sufficient morphine to produce sleep. From this time on his temperature ranged from 99° to 101°, never getting as high as 102. There was no material change in patient's condition until May 1st, when he commenced having diarrhœa. Had four or five semi-fluid, brownish colored passages daily.

May 2d.—Dulness found to be extending upward. When in sitting posture, percussion-note flat as high as fourth rib on left side; about the same on right, line of dulness varying with position. Hypodermic needle being introduced in axillary line, between fourth and fifth ribs, a bloody serum was withdrawn. Patient began to complain of dyspnœa.

May 3d.—Fluctuation was detected in tumor just below cartilages in mammary line, and pus withdrawn with the hypodermic syringe. It was thought to be an abscess caused by hemorrhagic infarction, and it was decided best to make an opening and provision for free drainage.

May 5th.—An incision one and one-half inches in length was made, parallel to and just below the seventh costal cartilage. After the dissection had been carried through the abdominal wall, about two ounces of pus and sloughed tissue escaped. The finger introduced through the wound entered a cavity about the size of a Havana orange, surrounded by soft, sloughing tissue. The cavity was washed out with a five per cent. solution of carbolic acid, a large drainage-tube introduced, the wound partially closed, and dressed à la Lister. The discharge was quite profuse, and the wound was dressed daily. The diarrhœa could not be checked. Dyspnœa increased, and caused a great deal of complaint from patient. Gradually became weaker, and died the morning of the 10th. For forty-eight hours before death, complained of severe abdominal pain, lay on his back with legs and thighs flexed.

*Post-mortem examination*, twenty-four hours after death.—Two ounces serum in pericardial sac. Heart normal. Sixty ounces bloody serum in each pleural cavity. This amount of serum, with the space occupied by the tumor, had caused entire collapse of left lung. Right lung in a normal condition. Abdominal cavity contained sixteen ounces sero-purulent fluid. Peritoneum injected. Omentum thickened, and with adjacent abdominal viscera adherent to spleen. Spleen nodular and very much enlarged. Anterior surface adherent to abdominal parietes. Measurements were: eleven inches in length; five inches lateral, four and one-half antero-posterior. Cut section showed a large number of tumors about the size of a walnut, some larger, some smaller, yellowish-brown in color, of firm texture, having no line of demarcation or sign of retrograde metamorphosis. In the upper anterior part of spleen was the cavity into which the opening had been made; it had enlarged a little subsequent to the operation, and was surrounded by soft, brownish, sloughing tissue. In the lower part of the spleen was another smaller cavity, about as large as a hen's egg, the walls of which had ruptured and allowed the contents to pass into the abdominal cavity. By microscopical examination the tumors show the structure of sarcomatous tissue. Liver slighty enlarged, otherwise normal. Kidneys normal. A few abdominal lymphatics enlarged.

## Progress of Medical Science.

Some New Points Concerning the Sympathetic Nerve.—In 1851 Claude Bernard first observed flushing and elevation of temperature in the ear, after section of the cervical sympathetic, stimulation of the nerve having the opposite effect. Later his experiments were verified by Brown-Séquard and many others. It has been customary since then to regard the sympathetic as a vaso-constrictor nerve. And all vessels were supposed to be provided with filaments proceeding from that main trunk.

Recently, Morat and Dastre (*La Scuoala Medica Neapolitana*, Nos. 11 and 12, 1880) instituted a series of experiments relative to the sympathetic. Their work was done under the supervision of Chauveau, at Lyons. They found that stimulation of the cervical sympathetic produced blanching in some parts, and vascular turgescence in others. The pallor was associated with a retarded flow of blood, and the flushing with increased force of circulation. The latter was noticeable about the lips, cheeks, and buccal mucous membrane.

The authors, therefore, rightly concluded that the sympathetic contained vaso-dilator in addition to its vaso-constrictor fibres. Hitherto the chorda tympani has been regarded as the one vaso-dilator nerve. Investigators have sought for other nerves of this kind among the cerebro-spinal branches, where none exist. The sympathetic was, in the same manner, assumed to be the vaso-constrictor nerve *par excellence*, and was not examined with regard to any possible vaso-dilator properties it might possess. Now, Dastre and Morat found both kinds of nerves in the sympathetic. But there remained to be explained the reason why only a single set of muscles, such as is found in the vessels, could be controlled by two different kinds of nerves. This apparent anomaly was explained by the fact that the vaso-dilator nerves did not terminate in the vascular layer of muscle, but reached for a shorter or longer distance beyond the vessels. These dilator nerves could be traced to the neighboring ganglia, or else were lost in adjoining nerve-plexus. The dilator nerve of the ear was

distinctly seen by the authors. Until now, it will be remembered, only vaso-constrictor auricular branches had been discovered. From this, and similar facts, it would appear that the sympathetic is a mixed nerve as regards its vascular relations. The newly discovered nerves inhibit the action of the vaso-constrictor fibres. The centres of regulation for this delicately-poised double action are found in the ganglia of the sympathetic. Thus the sympathetic must be regarded as presiding over the circulation of blood in the body, regulating both constriction and distention of the vessels, and at the same time serving as a vaso-motor trophic nerve.—*Allgemeine med. Cent.-Zeit.*, March 30, 1881.

THREE CASES OF HEPATOTOMY. — Lawson Tait's paper on Hepatotomy, read before the Royal Medical and Chirurgical Society (*Lancet*, May 28, 1881) contained the narration of three cases in which the author performed operations on the liver similar to those in two cases already received by the society. Abdominal section was performed, and the liver was found not to be adherent to the parietes in any of them; the contents of the tumors were removed, and the edges of the wounds in the liver were stitched by continuous suture to the edges of the wounds in the abdominal walls, and drainage-tubes were fastened in. Two of the cases were operated upon for hydatids of the liver, and the other for a large cystic abscess enclosing a loose piece of liver-tissue, weighing about an ounce, and which had apparently been a slough. All three patients made good recoveries, and were, at the time of reading the paper, in perfect health. Mr. Tait said that the results of his observations had been such as to lead him to prefer abdominal section to aspiration in all cases of hydatid disease of the liver. The hemorrhage from the liver was readily stopped by pressure. There was some difference of opinion as to the treatment of unilocular hydatids; but his own experience, and that of others, especially Styrian surgeons, led him to believe that aspiration rarely succeeded in producing permanent cure. Tapping removed the fluid, but did not prevent the cyst from again secreting. The prevention of the escape of the contents of the cyst into the abdomen was principally due to the manual dexterity of his assistant, who seized the cyst with forceps and held it up—a sponge being at the same time applied to each side of the wound.

REPEATED PARACENTESIS IN THE ASCITES DUE TO CIRRHOSIS OF THE LIVER.—The value of early and repeated paracentesis in the ascites due to cirrhosis of the liver is exemplified by a case which came under the observation of Dr. W. A. Duncan (*British Medical Journal*, June 4, 1881). The patient was a retired naval officer, aged forty-six years, who had always been a moderate drinker, taking on an average one or two glasses of rum daily. The ascitic fluid gradually accumulating, paracentesis was performed and seventeen pints of straw-colored serum were removed. Previous to the operation there had been no dyspnœa nor œdema of the legs, and but little discomfort. No bad result followed. Subsequently the operation was successfully performed twenty times in the interval of ten months, when at the expiration of that period there was no reaccumulation of ascitic fluid and the general condition of the patient was markedly improved. In all, one hundred and seventy pints of ascitic fluid were removed, as much as twenty pints being drawn at one sitting.

EXCISION OF BREAST IN INTRACTABLE ECZEMA OF THE NIPPLE.—At a recent meeting of the Clinical Society (*Lancet*, June 4, 1881), Mr. George Lawson exhibited a breast, which he had removed on account of long-standing eczema of the nipple. The case had resisted all treatment for twelve months, and was extending. Feeling that the usual termination of such cases was diffused cancer, Mr. Lawson advised, and accordingly removed the breast. There was a red, scaly patch, raised slightly above the level of the skin, and extending for about two inches around the nipple. The breast, when examined, exhibited cancer-elements diffused throughout the organ. Mr. Lister thought the line of practice a serious one, if meant to apply to all cases of eczema of the nipple, and would hesitate about advising the removal of the whole breast. But he was not long ago consulted by a lady for eczema of the nipple, which he treated by local applications, and since then he learned that cancer had developed. Mr. Lawson said that he advocated excision in cases where eczema of the nipple had resisted all treatment.

RETRO-PHARYNGEAL GOITRE.—These tumors, according to Madelung (*Langenbeck's Archiv*, vol. xxiv., part 1), are usually not associated with enlargement of the thyroid gland in its normal situation, and under such circumstances they may readily be mistaken for retropharyngeal abscess. This error is less likely to occur when there is a simultaneous enlargement of the thyroid gland proper. In the former event the retropharyngeal tumor is probably encapsulated, and an incision would not be likely to do much damage. Indeed, the tumor might be enucleated, as has been done with success by Czerny (*Beiträge zur operativen Chirurgie*, 1878). In the latter event a free incision might give rise to dangerous hemorrhage, while the attempt to extirpate would be a formidable undertaking, as are all partial excisions of ordinary goitres. Chiari reports three cases of retropharyngeal goitre, all associated with considerable hypertrophy of the thyroid gland. They had each given rise to great interference with respiration and deglutition. In the first case, the pharyngeal swelling was supposed to be a retropharyngeal abscess; an exploratory incision was made, giving exit to a moderate amount of blood. Parenchymatous injections of tincture of iodine into the substance of the tumors caused considerable shrinkage of the latter, with great subjective relief. The second patient refused operative interference. In the third case parenchymatous injections were productive of no benefit.

As regards treatment, Chiari divides these cases into two categories, viz.: those in which the retropharyngeal goitre is completely encapsulated, and those in which it is continuous with the remainder of the thyroid gland. In the former event it is probably possible to remove the accessory goitre, either by way of the mouth or from the outside; in the latter case no such operation should be attempted. Here parenchymatous injections of tincture of iodine are usually followed by some improvement. But they should be cautiously performed in view of the already existing obstruction to respiration, any slight exaggeration of which might give rise to such symptoms of suffocation as to demand immediate catheterization of the larynx. If this were not followed by instant relief, tracheotomy (under these circumstances a very difficult operation) would have to be at once performed.

# THE MEDICAL RECORD:

## A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., Editor.

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## HAS OUR VACCINE-LYMPH DEGENERATED?

SMALL-POX has now a rather unusual prevalence, both in this country and in Europe. In the United States there have been, on the average, two or three hundred cases every week for a number of months past. The chief centres of the disease have been Philadelphia, New York, and Chicago. Across the water it prevails still more actively, especially in London, Paris, Berlin, and Vienna. In the former city there were, in the week ending May 21st, 1,390 cases, with 103 deaths, which almost constitutes an epidemic. An equal, if not larger, proportionate number of cases have appeared in Philadelphia.

These facts have aroused a great deal of attention from various quarters as to the protective value of vaccination. An important contribution to one side of this subject was made, not long ago, by Dr. Charles Cameron, M.P. He propounds the question: Does vaccination, as practised in Great Britain, afford as much protection from the subsequent occurrence or virulence of small-pox as it did in the days of Jenner? and he answers the question decidedly in the negative. It may be imagined that such a conclusion would be difficult to prove with any degree of positiveness, though it has long been felt to be the fact by many experienced observers. In 1857 a commission, appointed by the Belgian Academy of Medicine to inquire into the matter, reported as one of its conclusions: That humanized vaccine becomes gradually enfeebled through its successive transmissions, without, however, altogether losing its preservative power. About the same time Dr. Simon published a report giving a similar opinion. These reports, however, were based partly on insufficient evidence and partly on theoretical reasoning. And we have, on the other side, the opinions of many persons whose experience in vaccination has been very large.

But Dr. Cameron has now collected more evidence, in the way of statistics, to support his view than has ever been presented before, and his arguments therefore command especial attention.

It is known that Jenner believed the preventive power of vaccination to be almost absolute. And there is a good deal of evidence that in the first fifteen or twenty years after vaccination was introduced the cases of post-vaccinal small-pox were very few.

It was not until 1819, however, that statistics of any great value began to be accumulated. In that year an epidemic of the disease was recorded in Scotland. After this, observations on a large scale were made both in that country and in France, Switzerland, Sweden, and Copenhagen. Grouping all of these cases of post-vaccinal small-pox, except those of Sweden, which are not exact, we find that the total number up to the year 1836 was 15,186, with a mortality of 266, or 1.75 per cent.

A second group of statistics was collected by Dr. Marston in the London Small-pox Hospital. His figures cover the years from 1836 to 1852. Among 2,787 cases of post-vaccinal small-pox the mortality amounted to 6.9 per cent. Among 10,398 cases of a similar kind, occurring between 1852 and 1867, the mortality was 7.6 per cent., that among the unvaccinated being 35.7 per cent. In the last decade, 1870–79, among 15,000 cases the mortality advanced to 9.2 per cent.

A table will show this better:

PERCENTAGE OF MORTALITY IN CASES OF POST-VACCINAL SMALL-POX.

| 1819–35 | 1836–52 | 1852–67 | 1870–79 |
|---|---|---|---|
| 1.75 | 6.9 | 7.6 | 9.2 |

The above statistics attempt to prove, of course, only the diminished power of vaccination to lessen the malignancy of small-pox.

It may be said that the statistics do not include enough cases to prove the point.

It may also be urged that the vaccination was done less efficiently; and finally (as appears to be the fact), that the disease itself has grown more malignant of late years. Against the second objection Dr. Cameron shows that even when comparisons are made between successive groups of post-vaccinal cases having one, two, three, or four cicatrices, the evidence of an increased mortality is the same. Thus, for example, the mortality from post-vaccinal small-pox with four cicatrices was in 1836–51 one and one-tenth per cent.; in 1870–79 it was four and eighty-three-hundredths per cent.

Against the third objection, it is shown by a number of statistics that the ratio of mortality in post-vaccinal small-pox has had a greater increase, proportionally, than has the mortality among the unvaccinated cases. Thus, while the ratio of mor-

tality has increased in the present century from twenty-five or thirty-eight per cent. to forty-five per cent. in the unvaccinated, the mortality in the vaccinated has increased from one per cent., previous to 1830, to about ten per cent. in the last decade.

Vaccination, as is well known, acts in two ways. It prevents small-pox and it lessens the virulence of the disease, if subsequently taken.

The statistics so far given cover only the latter point. It is much more difficult to obtain any certain data regarding variations in the power of the vaccine lymph to ward off variola altogether. Some facts, however, bearing on this part of the subject have been collected. Jenner thought that one vaccination was in general a sufficient protection for a lifetime. The records of the earlier part of the century seem, to Dr. Cameron, to justify Jenner's confidence; but the necessity of revaccinations became in course of time very apparent, and we can hardly avoid the belief that it is necessary now to revaccinate at shorter intervals than formerly. The following table seems at least to indicate very strongly that many more cases of post-vaccinal small-pox occur now within ten years after a vaccination than occurred in the first half of the century. The statistics are from English hospitals.

| Period. | Ratio of cases of children of ten and under to total cases of post-vaccinal small-pox. | Ratio of deaths in children of ten or under to total deaths from post-vaccinal small-pox | Number of observations on which percentages are based. |
|---|---|---|---|
| 1824-51.. | 2.4 | 2.7 | 6,187 |
| 1870-9... | 12.4 | 11.3 | 11,822 |

Even taking into account, therefore, the fallibility of statistics and the necessary incompleteness of some of those here presented, it seems to be very probable indeed that the humanized vaccine, as used in England, has degenerated.

As regards that used in this country, nothing so positive can be said. The virus that we have here is partly the pure bovine and partly the humanized. Most of the former and part of the humanized lymph comes from the Beaugency stock. There is getting to be an increased confidence in and a much wider use of this animal virus among American physicians. It is used almost exclusively in this city. Still it cannot yet be said that it has not lost or is not losing any of its power. It is now fifteen years since it began to be propagated, and nearly eleven years since it was introduced into this country. Two years after its introduction, Dr. Martin stated that four hundred thousand vaccinations had been performed with it, and that no case of post-vaccinal small-pox had occurred.

With regard to the humanized virus, its quality doubtless varies in different localities. Some time ago we mentioned the opinion of Dr. Atlee, of Lancaster, Pa., which was that in an experience of over sixty years he had seen no deterioration in the humanized virus. The experience of our city health board during the past six months has shown that the virus used here, which is the bovine, is most efficacious. Nearly all the cases of small-pox have occurred either in the unvaccinated or in those who had not been vaccinated since infancy.

Whether or not the American lymph has degenerated, it seems quite clearly shown that such virus can degenerate; and this fact is a most important one for the sanitarian and physician to bear in mind.

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### PHYSIOLOGY AND MATERIALISM — SOME NEW PHILOSOPHICAL VIEWS.

It is undoubtedly the tendency of scientific studies to incline the mind toward materialism; and it often happens that, in time, a person thus studying finds himself unable or disinclined to accept any facts whatever until their truth has been scientifically and exactly demonstrated. Whether this be a misfortune or otherwise, it is true, as many medical men who seriously pursue their profession can testify.

A work appeared in London not long ago which aimed to apply demonstrative reasoning to a number of things usually considered rather outside of such a process, and which contains also some novel physiological theories that are not without interest. The book has the rather oppressive title: "An Inquiry into the Process of Human Experience." Its author, Mr. William Cyples, lays large claims both to original observations and explanatory hypotheses.

Three of these hypotheses we wish to refer to, because they are chiefly physiological, and have an interest in themselves apart from any anti-materialistic inferences to be drawn from them.

Mr. Cyples asserts that by a careful study of the mental and physical changes in himself and others, while in conditions of reverie, attention, etc., he has made out a new law in regard to the reception of sensuous impressions. It is this: that no one of the senses can operate so as to arouse the consciousness, without the associated working of the muscular machinery connected with such special sense. Thus, he says: "Fix the eye, and if you do it completely, you cease to see; give over altering pressure, and the sensation of touch stops." Perfect rest of the muscles connected with the different senses, no matter how slight or momentary it may be, arrests experience in respect of that sense. The power of concentrating the mind, of attention, in any individual, means that he has acquired the power of controlling this coincidence in activity between any sense and its muscular machinery. When this machinery works inharmoniously with the excitations of sense, or when it is suspended, there is

more or less loss of consciousness. He would thus explain the influence of narcotics, and the mechanism of sleep, swooning, etc.; though this disassociation, or inco-ordination, would be, of course, only one factor in these latter phenomena.

We have here, then, an assertion, which, put in physiological language, would be, that the activity of the kinæsthetic centres is necessary for the conscious awakening of the visual or other special sense centres. That these centres do act together very closely is acknowledged. But their absolute interdependence seems improbable, and is not demonstrated by Mr. Cyples. We have, however, but hinted at the theory, and cannot attempt to give the author's own elaborate defence of it.

His second theory, which is also based on original observations, is one which aims to explain the consciousness of pain. The prevailing views of modern psychologists, such as Bain and Spencer, regarding the phenomenon of pain, are that it is the accompaniment of an abatement of vitality. Modern physiologists explain it by assuming that in pain there is an excessive stimulation of the nerve-fibres, and that, in consequence, the nerve-impulses engendered overflow their natural paths; they inundate, so to speak, other tracks, and excite an abnormal number or kind of sensory areas.

Mr. Cyples essays to refute the theory which assumes an abatement of vitality. His own view is that pain arises whenever a group of nerve-cells and their connecting fibres become disintegrated by a too great or prolonged excitation. Thus, let the arm be held out at a right angle. In a short time there will be a sensation of fatigue, then of pain, and at last of real agony. This progressive change in the sensations is brought about by the gradual disintegration of the nervous tissue that made up the co-ordinating and controlling centre for the arm-muscles.

The deductions from this theory are chiefly of psychological interest. According to it, the consciousness is more active and intense the less the physical subtratum for it. "Pain," he says, "may be said to be the first protest which consciousness makes against its own dwindling." If, according to the materialistic view, mind only exists in quantity proportionate to the nervous matter with which it is associated, how can there be pain? In fatigue and in pain, while nerve-tissue disintegrates, mind, "the egoistic experience," is intensified.

We have already wandered too far from what is strictly medical, and we can only make a bare reference to a third hypothesis, or rather line of reasoning given by the author in question. This is a most curious and ingenious attempt to demonstrate, from physical and physiological data, the existence of the will. His views certainly deserve the attention of the modern philosophers if for no other reason, because they are presented with such care and in such strict accordance with scientific methods.

Whatever may be the actual truth of Mr. Cyples' views, physiological or psychological, they are acknowledged to represent one of the best contributions to modern psychology—which means a psychology based on physiology—that has been made for many years.

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### THE PRESIDENT.

THE new complications in the President's case, which have occurred in the past week, aroused fresh anxiety concerning him, and justify us in continuing our record of his condition.

The improvement which was going on at our last writing continued with scarcely any change until a week ago. The temperature every morning was normal. In the afternoon there was a slight rise, but it did not reach 100° F. until Friday, the 22d, when it stood at 100.2° at 7 P.M. Later in the night it rose a little higher, and the patient passed a somewhat restless night.

On Saturday morning, at 7 A.M., the temperature was normal, as usual. Half an hour later, however, a slight chill occurred. The temperature then rose steadily, until at about eleven o'clock it was 104°, the highest point reached since the wound was inflicted. A second chill came on at this time. The patient vomited also. But a free perspiration soon followed, and the fever again declined until, in the evening, the temperature was 99.2°. At midnight another slight chill occurred, and the patient's sleep was a disturbed one. Still, in the morning the temperature was normal again.

At this time, Drs. Agnew and Hamilton having arrived, a consultation was held. The attending physicians had observed that the pus had flowed less freely for the past two days, and had naturally laid the chills and pyrexia to an accumulation of purulent matter with septic absorption.

This was found to be the case. The pus had burrowed down below the opening of the wound and behind the eleventh rib. Here it had accumulated. Local anæsthesia was used and an incision made about three inches beneath the original wound. There was an escape of pus as had been expected.

A drainage-tube (which for some reason the daily press has christened a drainage-pipe) was passed through the two openings and the wound was thoroughly cleansed.

The operation was slight and painless; the great fortitude ascribed to the President in not wincing is not so remarkable, therefore. Good symptoms immediately followed, and at evening the temperature was only 99.2°. On the 26th the new opening was enlarged, and a small spicula of bone removed. Improvement has, up to date of writing, steadily continued.

# Reports of Societies.

## NEW YORK ACADEMY OF MEDICINE.

*Stated Meeting, May* 5, 1881.

FORDYCE BARKER, M.D., LL.D., PRESIDENT, IN THE CHAIR.

### PROGNOSIS AND TREATMENT OF PLEURITIS IN CHILDREN.

DR. J. LEWIS SMITH read a paper on the above subject, it having been referred to the Academy from the Obstetric Section. (See vol. xix., p. 413.)

DR. C. E. BILLINGTON remarked that little remained to be said after the exhaustive paper on the subject by Dr. Smith; but he would say, in relation to the case with which his name was connected, that there was strong evidence that the injected carbolic acid solution penetrated the pulmonary pleura and entered the lung, for it flowed out less freely than on a former occasion. There was an odor in the child's breath, a moist cough developed which had not existed before, and the child went into collapse. He had reported a case not many years ago, in which he introduced the trocar at a point where an external opening was about to form spontaneously, and syringed out the pleural cavity repeatedly. The pus, however, became putrid, and on the third or fourth day the child began to suffer from extreme dyspnœa, and coughed up carbolized water which had been used as an injection. This occurred a number of times without any alarming symptoms, until on one occasion the child passed into extreme collapse. Artificial respiration was resorted to, as in the case just alluded to, and the child was resuscitated; but it was probable that such an accident might sometimes prove fatal.

DR. BEVERLEY ROBINSON'S experience with pleurisy in children was more limited than with the same disease in adults; but the remarks which he wished to make might apply to either class of cases. The occurrence of œdema of the lung influenced the prognosis unfavorably, and he believed it occurred most frequently after the artificial removal of the effusion. This fact, he thought, added to the importance of not drawing off all the fluid at one time, especially if the quantity were large. He believed, from an examination of the statistics three years ago, and from observation since, that thrombi and sudden death occurred perhaps never during the operation of paracentesis, but rather during the washing out of the cavity after a larger puncture had been made. He did not think that there was any evidence to show that the inflammation of the pleura was increased by the former operation, or that any serious results attended it; and it was his rule, therefore, after detecting fluid, of whatever kind, by the exploratory puncture, to perform paracentesis, especially if the effusion were considerable. He thought Dieulafoy had proven conclusively that the use of the aspirator at any place was not dangerous. Dieulafoy had stated, also, that the puncture of the lung, which sometimes occurred accidentally during aspiration, was not attended with danger; on the contrary, that he believed the local bleeding which it caused was beneficial. Dr. Robinson was not prepared to accept the latter statement, but he believed that the accident was not necessarily injurious, especially if the puncture were made with a small needle. He had treated two cases of empyema in adults within the last year and a half, and one patient, whose pleural cavity was thoroughly irrigated, died; the other, who was under his care only a part of the time, and in whom irrigation, he believed, was not practised at all, got perfectly well. The fact that fatal accidents do sometimes follow irrigation, and never, he believed, aspiration, rendered it important to adopt irrigation with care. Post-mortem examination showed that the cause of death in different cases could be attributed to different things—as thrombi, either of the heart or pulmonary vein, or emboli, etc.—conditions which, perhaps, could not be directly attributable to either aspiration or irrigation. He found it impossible sometimes to withdraw fluid, although its presence had been established beyond doubt, and no apparent explanation, as stoppage of the tube or the presence of adhesions, could be offered for it. He did not believe there was any medicinal means for aborting, arresting, or notably arresting the march of the pleuritic effusion after it was once established. Aconite and quinine, except in small doses, had a depressing influence upon the heart's action, and should not, he thought, be given to control the inflammation in these cases; digitalis, on the contrary, not only reduced the pulse and the respirations, but also sustained the heart's action, and was the drug that should be used.

DR. KINNICUT did not think that a lack of displacement of the heart was necessarily an indication that paracentesis was not called for in simple pleurisy with effusion. He had observed, in some cases of pleurisy with effusion on the left side, that the apex-beat was in its normal position, the explanation being that there was adhesion between the pericardium and the pleura. A case was reported by Dr. H. T. Smith in which the heart-beat was to the left of the normal position, although there was considerable effusion in the left pleura. He believed in irrigation in empyema. In the case of a young boy, a free incision was made, and pus ran out freely, after which daily irrigation was practised. If for any reason it was omitted, the temperature would rise, and symptoms of sepsis develop, which would disappear on renewing irrigation. This was experienced repeatedly. The same was true in another case under his care in St. Luke's Hospital, and the patient finally recovered. He referred to a case reported in the London *Lancet*, in which an English surgeon so arranged an apparatus as to keep up constant irrigation, operating automatically with the inspirations and expirations of the patient. The fluid used was Condy's. He thought that a simple serous effusion, although it did not produce any marked dyspnœa, but which did not decrease in quantity, should be withdrawn within three weeks, because of its tendency to become purulent.

DR. A. A. SMITH said that, as a student and practitioner, he had often had occasion to feel thankful to the author for his valuable instructions on the diseases of children, and he would now express his thanks for the very valuable paper which had just been read. He thought more danger attended the operation of paracentesis thoracis than Dr. Robinson would have us believe, and the possibility of puncturing the lung tissue, an accident which Dr. Robinson considered of little moment, was in itself a matter for careful consideration. A simple serous effusion, if allowed to remain in the pleural cavity sufficiently long, tended to undergo purulent change, and the liability thereto was greatly increased by the addition of even only a small amount of blood. In

more than one case in his practice, in which there was only a simple serous effusion, as evidenced by the microscope, after a few operations of paracentesis thoracis pus-cells began to appear, and the cases resulted in empyema. Again, he thought there was always some danger of the entrance of a little air, which, of course, increased the chances of empyema; and danger, also, of puncturing blood-vessels which had formed in the inflammatory material, as well as those of the lung-tissue, and, consequently, the escape of blood into the fluid, which would favor purulent change. He thought that jaborandi, when given in small doses, acted as a cardiac stimulant, not as a depressant, and in many cases as a diuretic, not as a diaphoretic, and prompted absorption of the effusion, and was therefore indicated in pleurisy. He had known it to check profuse sweating. It should be given to children in doses of from one to three minims of the fluid extract, repeated in from one to six hours. He thought that, in some cases in which there was great dyspnœa with high temperature, the withdrawal of some fluid was indicated, although the pleural cavity was not full. He thought sufficient stress had not been placed upon the fact that the removal of only a small quantity of the fluid effusion promoted absorption, and he referred to the case of a child in which tonics and slight counter-irritation failed to promote absorption at all, but absorption began to take place immediately after the removal of only half a syringeful of the effusion; and this occurred frequently in other cases in which a syringeful was withdrawn. He referred to the fact that air which entered the pleural cavity rose to the top, and he had detected its presence by percussion after the closure of the opening through which it entered, and proved afterward by percussion that it must have been absorbed. He did not fear the entrance of air so much as formerly. Iron, quinine in small doses, cod-liver oil, and tonics in general were indicated, and, if necessary, the heart should be sustained by alcoholic stimulants; it was particularly important to keep the digestive system in the best possible condition. In performing paracentesis thoracis the puncture should be made, not too far back, but forward of a line perpendicular to the axilla.

The President, for some years past, had deputized the care of such cases to his assistants, but in former years he had a great deal of faith in certain therapeutic measures, as follows: certain effects of the presence of the effusion were to be avoided, or relieved if possible, such as pain and disturbance of nervous function and arterial excitement. These were important indications, as imperfect oxygenation, to which they led, had a very unfavorable influence on the progress of the disease. The first case of the kind which he had occasion to treat, and which led to a very thorough study of the subject at that time, occurred in his own child, about eighteen months old. As just said, the two chief indications were the relief of pain and the control of arterial excitement, and the agents referred to by those who had preceded him, for the control of cardiac excitement, were aconite and digitalis; but he considered veratrum viride far more efficient. It did not cause the secondary depression which sometimes followed the use of aconite, nor did it neutralize the effects of stimulants as did aconite; and it was more certain in reducing the frequency of the pulse than was digitalis. His child had all the signs of a severe attack of pleurisy. He administered one drop of laudanum and one of the tincture of veratrum viride in a teaspoonful of sugar and water, repeating every hour; applied a poultice over the affected side, and covered it with oiled silk. As the pain became relieved he decreased the quantity of laudanum, giving one drop of laudanum every two hours, and two drops of veratrum every hour; he then increased the veratum to three drops, until the pulse was reduced from where it could scarcely be counted to one hundred per minute. The relief given was very marked. This was before the time of the thermometer, and the temperature, consequently, could not be given. There were indications for calomel and nitrate of potash, which he gave. He had often adopted this plan of treatment, and had found it very efficient; it diminished the severity of the symptoms and relieved suffering and nervous disturbance.

The Academy then adjourned.

## CHICAGO MEDICAL SOCIETY.

*Stated Meeting, April* 18, 1881.

Dr. E. Ingals, President, in the Chair.

### VACCINATION AND VACCINE VIRUS.

Dr. N. S. Davis opened the discussion of this subject by inquiring whether nursing children under two or three months of age were liable to take small-pox, and whether infants should be vaccinated. He once had to treat a mother for varioloid, who nursed a baby six weeks old. This baby was vaccinated twice, but without any result, and although it slept by the side of another child who had small-pox, it did not take the disease. An old man had confluent small-pox in the winter of 1856, during a variolous epidemic. There was a baby four weeks old in the house, whom he vaccinated three times unsuccessfully. The baby did not take the disease. These two cases and the one following were treated with a solution of sulphite of soda and belladonna, a proportionate dose being administered to the infants three times a day out of the mixture prescribed for the variolous patients. The third instance was one in which two children had variola in one family, and a baby of the same family escaped. He made the query: Is there less susceptibility to take the disease in infants, or is the treatment with sulphite of soda and belladonna an efficient measure in such cases?

Dr. W. E. Clarke related the case of a woman who had the measles. Her nursing child did not take the disease, but, six months after the woman recovered, the child was exposed once more, and took the measles. He generally declined to vaccinate children under two months of age, because he had once a case of adenitis, and had seen other bad results follow vaccination in very young children.

Dr. O. C. De Wolf, Health Commissioner, said that in 1878 the sulphite had been used extensively, under his supervision, by the City Board of Health, and that he had found the results of no consequence whatever. Dr. Guerin had given them a trial at the Small-pox Hospital. As to the immunity conferred by vaccination, he believed it to be very satisfactory. Of several cases of children taken to the hospital, not one had contracted the disease, although fully exposed. In regard to the greater efficiency of the bovine virus, this was asserted by some and denied by others. Dr. Jones had refused to use bovine virus for two reasons: 1st, very young children are less susceptible to it than he (Dr. De Wolf) believed;

2d, because the result is more energetic, and produces a sort of dermatitis or erysipelas. As to the first question of Dr. Davis, he related a case to the point: "A mother was taken sick with variola a few days ago, who nursed a baby two days old. It was not vaccinated. It was fourteen days old to-day. Now is the time at which the eruption should come out; but the infant has just died with convulsions, probably from an overwhelming of its system with small-pox, although no symptom manifested itself before this." Had that child been vaccinated it would have lived. He had never seen a fatal case in one who had been efficiently vaccinated. The Health Department always employed bovine virus, as it would have been impossible to procure enough reliable humanized lymph to vaccinate the seventy thousand cases this last two years. There was no doubt that syphilis could be transmitted by humanized virus. He never saw, however, anything beyond dermatitis and axillary abscesses in a few cases. In three or four cases he had found a sloughing of the scab, but he thought that, as this takes place after the ninth day, the patients were well protected. He had seen some cases of that kind who were afterward exposed to the disease, but did not take it. If anything should interfere with the vaccination before the ninth day, then it might not be protective. The people who were taking small-pox in the city were mostly adults who had not been revaccinated. There were thirty or thirty-five cases then in the hospital. The mortality among them was very great. About forty per cent. of those attacked in Chicago, in New York, and in Michigan, die. The disease was not at all modified by old vaccination. Some had confluent small-pox who had many scars on their arms. Eighty-nine per cent. of the cases of secondary vaccination were successful, and he never saw a case of small-pox among these in four years. Many people were deceived, and thought they were successfully vaccinated when they were not.

Another fact was used by the Anti-Vaccination party in England. The disease had increased, as also its mortality, since the compulsory law of 1878 in that country. It was because this law related to children under school age. The increase of the disease is observed in those only that are not subject to that law.

Dr. E. Ingals asked: Would a repetition of vaccination within a few months be successful?

Dr. De Wolf had not observed any case to the point, but he related a case of small-pox in a child who had been vaccinated eight years before. Previous to 1878, vaccination certificates used to be issued in Chicago by druggists and other people who knew nothing about medicine; but since that time none but those issued by reliable physicians had been accepted by the Board of Education. This accounted for the universal protection from the disease in children under twelve years of age.

Dr. John Bartlett said that children who are not susceptible to vaccination may take small-pox; six cases of that kind had come under his observation, and Dr. Byford had observed two similar cases, where repeated trials at vaccination had failed, and the children died of small-pox.

Dr. E. Ingals said that the rule was that cases who receive vaccination with difficulty, or not at all, did not easily take small-pox. He was himself vaccinated many times, but only the first took. He was subsequently exposed to small-pox a great deal, and finally took varioloid from a case of confluent small-pox. He was very slightly affected.

Dr. C. W. Earle remarked that he had been afraid to use bovine virus on account of the greater liability for the vaccinia to be severe and complicated.

Dr. Bartlett mentioned that Dr. Freeman Knowles, of Keokuk, saw four hundred cases of syphilis in a regiment stationed there, who had received the disease through vaccination.

In answer to a question, Dr. De Wolf said that the amount of scars left by vaccination did not seem to influence the protection conferred. The Scandinavian Poles and Bohemians generally had many cicatrices; they, however, formed a majority of the cases then in the hospital, and mortality was great among them.

Dr. R. S. Hall now answered the inquiry as to immediate secondary vaccination. He saw a successful case, and had no doubt that if we should revaccinate some weeks after the first vaccination had taken, many cases would prove susceptible.

Dr. Jane E. Walton vaccinated a child, and after six days revaccinated it. Both vaccinations produced the characteristic sore.

Dr. N. S. Davis stated that immediate revaccination was the test of a successful vaccination. If it did not take the second time, it was a sufficient proof that the first was successful. This was the only test. He had investigated the matter, and found that the great majority of cases were not susceptible of a second immediate vaccination after this had been performed successfully. If this precaution was observed, not one in a million would take small-pox. The period for compulsory vaccination he placed between the age of sixteen and twenty-one, and thought the majority were safe for a life-time after that. But circumstances arose which interfered with this immunity, as typhoid and other serious diseases, sometimes a change of climate and circumstances, and revaccination should be made in those cases. If compulsory revaccination were enforced, it would stamp out the disease. All we can do is to vaccinate school-children. He had always used humanized virus until a year ago. He had never seen a case of sore arm from its use.

## NEW YORK SURGICAL SOCIETY.

*Stated Meeting, April* 12, 1881.

Dr. H. B. Sands, President, in the Chair.

### THE MECHANISM OF COLLES'S FRACTURE.

Dr. Lewis S. Pilcher continued the discussion from the last stated meeting, and said: "I take pleasure in submitting to the examination of the society the experimental specimen of fracture of the lower extremity of the radius, which I find have been preserved, of those made by me two and three years since. They are ten in number. In one the styloid process, together with sufficient of the adjacent bone to include the scaphoid articular facet, is alone torn away.

"In the second, an incomplete line of fracture runs very obliquely across the front of the lower end of the bone, distant $\frac{6}{64}$ inch from the articular edge at the centre of the bone, and running into the articulation near the ulnar facet. The eight remaining all present nearly transverse fractures at points above the anterior articular edge, varying from $\frac{1}{64}$ inch to $\frac{3}{64}$ inch. In order to secure a fixed basis of measurements for purposes of comparison, I selected the point between the scaphoid and lunar facets as the point at which the measurements should be made

in each, and from this having drawn a line parallel with the long axis of the bone to the fractured margin, the length of this line is the one recorded. On each specimen presented this line will be seen traced, and will be observed to be a fair general mean measurement of the irregular fragments which are to be compared.

"Two of these measure each $\frac{1}{4}$ inch. They are respectively the right and left wrist of the same body, and illustrate the fact pointed out by Dr. Hamilton in his remarks that an identical lesion would be produced in the two radii of the same person. The remaining specimens measure respectively $\frac{3}{4}$, $\frac{3}{4}$, $\frac{1}{2}$, $\frac{1}{2}$, $\frac{1}{2}$, and $\frac{1}{2}$ inch. A comparison of all these specimens shows that they differ considerably in the obliquity of the line of fracture from side to side, but that this line is quite uniformly straight from before backward; in other words, an irregular portion of the lower end of the bone has broken nearly squarely off in all. These fractures were all produced by extreme backward flexion of the wrist.

"These specimens are of interest from their bearing upon the arguments advanced by Prof. Hamilton at the last meeting of this society, which I beg leave to repeat, as they impressed me at the time—subject to correction, if I am wrong: 1. The insertion of the anterior radio-carpal ligament is limited to the one-fourth inch immediately above the articular surface. 2. The portion of the bone into which the ligamentous fibres are inserted alone would sustain any strain put upon them, and would be torn away by excessive violence. 3. Experimental fractures of the lower extremity of the radius by forced backward flexion, as a rule, present lines of fracture distant from the articular edge less than one-half inch. 4. Fractures of the lower extremity of the radius, as ordinarily produced by falls on the palm of the hand in the living subject, present, as a rule, lines of fracture more than one-half inch above the articular edge. Therefore, some other force than that of avulsion through the anterior radio-carpal ligament must be the determining agent of the fracture at this particular point. This force is the impact of the fall.

"I attempted, imperfectly, to call attention at that time to some sources of error in this reasoning. First, with reference to the insertion of the anterior ligament. This ligamentous insertion is not comparable, as we would infer from the manner in which it is referred to, to the fastening together of two distinct bodies, as by the tying of a rope, or the clamping of a bolt; but the structure of the one is continuous with that of the other, the ligamentous tissue being continuous with the connective-tissue framework of the bone itself. Force transmitted through the ligament is not abruptly precipitated upon the bone, but is transmitted through continuous tissue until by its mechanical arrangements it is disintegrated and expended. If a cross-breaking strain, therefore, is exerted through this ligament, the mechanical arrangement of the bony lamellæ of the extremity, the cohesion of its particles, and the position of the fulcrum, which is the fixed point upon which the strain is exerted—all variable factors—influence the result more than the particular superficial area of the apparent insertion of the ligament.

"The truth of this is also illustrated by the varying degrees of ease with which fractures of the inferior extremity of the radius are produced at different ages of life. This fracture occurs very rarely in children under ten years of age, nor can it usually be produced upon their bodies experimentally by any force. In the rarefied and brittle radii of the aged, it is occasioned by comparatively slight force. Schmit ('Fract. de l'extrém. inférieure du radius,' p. 55) found, in 48 subjects between sixty and ninety years of age, a mean force of 27 kilogrammes (73 pounds) was sufficient to produce a fracture; while in 32 subjects between eighteen and fifty years, a mean of 50 kilogrammes (135 pounds) was demanded, in some cases 100 kilogrammes (270 pounds) being hardly sufficient.

"Again, as to the ordinary seat of the fracture produced experimentally, I stated that the recollection of the results of my own experiments was not that there was any such uniformity of proximity to the articular edge of the line of fracture as had been found by Dr. Hamilton, but that in quite a notable proportion of cases—even, perhaps, an equal number of cases—was it a half-inch or more above. Of the specimens now presented, of the eight in which the fracture involves the whole breadth of the bone, three are fractured a half-inch or more above the articular edge. The whole series present a uniform lack of uniformity in the position of the line of fracture. On this point, also, I will quote the more extended experiments of Schmit (op. cit., p. 66), who says: 'We have found the seat of fracture to present the greatest variation, from within the articular facet, even as far up as four centimetres (one and one-half inch) above it; we have met all the numerous forms of the direction of the solution of continuity; all the different aspects which have been described by authors, and that without noting that any particular kind was most frequent at any special age.' The last proposition, that the line of fracture ordinarily produced in the living subject was a half-inch or more above the articular edge, is very much diminished in its force, by noting the very great variations in this respect which the specimens present that have been dissected and fully examined. The specimens in particular from the New York Hospital collection, which are before us, show great variations in the amount of the articular extremity which has been separated from the shaft.

"In one specimen (No. 125) the lower fragment is composed of the tip only of the styloid process of the radius; in a second (No. 127) the whole styloid process is broken off, the line of fracture running obliquely from its base downward to the bisecting ridge of the articular surface; in these two specimens, the dorsal lip of the articular surface of the radius has been crushed off, and a fracture of the scaphoid bone also sustained; in a third specimen (No. 122) a yet larger portion of the articular surface is included with the fragment, the line of fracture running from the base of the styloid process to the middle of the quadrilateral articular surface, for the semilunar bone; in a fourth (No. 121) the whole of the carpal articular surface of the radius is carried away with the lower fragment, by a line of fracture running very obliquely from the base of the styloid process to the point of junction of the ulnar and the semilunar articular surfaces.

"In other specimens, Nos. 120, 123, 124, 125', 129, of the New York Hospital collection, the lower fragment includes the whole of the inferior extremity of the bone, which is separated from the shaft by a line of fracture running nearly transversely, at points varying from one-fourth inch to one inch above the articular margin in front, with an antero-posterior obliquity, so that, on the dorsal aspect of the radius, the line of fracture is somewhat higher above the articular margin than was the case upon the palmar

aspect; in the specimen (124[a]), the line of fracture is lowest upon the dorsal aspect of the bone, where it runs along the epiphyseal line, about three-eighths of an inch above the articular edge; thence it runs obliquely upward as it approaches the palmar aspect, where it terminates about one inch above the articular edge.

"In the remaining specimen (No. 128), there is simply a longitudinal fracture running upward from the articular surface, near the ulnar margin, by which a bit of the radius containing the ulnar-articular facet is split off. This was accompanied by a fracture of the scaphoid bone.

"It is to be noted that all these were instances of injuries where a great degree of violence was sustained, and other injuries of fatal character received.

"Of three other specimens of recent fracture which I have examined, in one the styloid process and the scaphoid facet alone were torn off; in the second, the line of fracture was $\frac{1}{2}\frac{3}{4}$ inch; and in the third, $\frac{1}{4}\frac{4}{4}$ inch above the articular edge. It is evident from these how difficult and unsatisfactory must be the attempt to deduce any conclusion founded upon any arbitrary line along which the point of fracture is to run. Two general groups of facts, however, stand out as the result of the examination we have made. They are: first, experimentally every grade of fracture of the lower extremity of the radius, from simply the separation of the styloid process to a transverse fracture an inch and a half above its articular edge, has been produced by violent tension of the anterior radio-carpal ligament in forced backward flexion of the wrist-joint; second, every grade of this fracture, likewise, may result to the living person from a fall upon the palm of the hand. The question of interest, and upon which difference of opinion exists, is: What other force than that of tension of the anterior ligament is added in these falls, and what share does it have in producing the particular result? This force is that of impact. It is possible to analyze its application and its effects.

"The order of events which happen in falls upon the palm of the hand is as follows:

"First, the impact is sustained by the thenar and hypothenar eminences over the base of the metacarpal bones. In extreme extension the prominences of the trapezium and unciform bones become involved in the impact. That the fall should come upon the palm of the hand at all, it is necessary that the hand should be previously somewhat extended, in which movement the points where the impact is to be sustained are carried back of the axis of the radius.

"The immediate effect of the impact is to increase this extension. The distal row of the carpus glides backward upon the proximal row, the latter glides forward beneath the articular surface of the radius until it is checked by the distended anterior ligament, and the radius rests upon its posterior surface. The flexor tendons also—if the muscles be in contraction—antagonize this extension and reinforce the anterior ligaments. However, if the flexor muscles have been sufficiently strongly contracted to resist the further tendency to extension at the moment of the impact, the hand and carpus will be driven *en masse* upward, as the resultant of the forces of extension and flexion, and the convex surface of the upper row of the carpus will impinge against the broad, shallow, concave articular surface of the radius. In the transmission of the force to this point it will have already been greatly decomposed. The elastic adipose, fibrous and muscular cushions of the palm, and the two rows of carpal bones, cancellous in structure with their interposed cartilages, unite in repelling shock; whatever of strain has been put upon the flexor muscles is just so much force transmitted to the origin of the muscles and there expended; whatever of ligamentous strain is sustained is just so much of the original force transmitted to the insertions of the ligaments and there expended; whatever of the force of the original impact which is not thus expended is finally received upon the articular surface of the radius. Here an admirable arrangement is found to break up and render harmless whatever of force yet remains—a buffer of cartilage, upon which rests a cone of cancellous tissue which is grasped above by a cylinder of strong, thick, compact walls. All force transmitted to the lower extremity, other than that of very great intensity, of the radius, is here finally decomposed and repelled, or propagated upward along the shaft, to be modified by other and new conditions of muscular tension and articular relations, and intimate arrangement of bony particles, the result perhaps in fracture or dislocation above—the most common result in children, in whom, as is well known, fractures of the forearm by falls upon the palm of the hand are the most frequent of all the fractures sustained by them. If, however, by reason of the less degree of the resilience of the bone, as exists more and more with advancing age, and by the particular fixation of the whole extremity, the greater part of the force of the impact is expended upon the tissue of the lower extremity of the radius; and if, in addition, as the result of very great violence sustained, as in falls from a height, the impact of the carpus against the radius is more powerful than can be resisted by the mechanism which has been described, the result will be that the blunt wedge, formed by the carpus, driven against the concave articular surface of the radius, with a crushing force, will split it longitudinally. Many of the New York Hospital specimens illustrate the effect of this crushing force perfectly.

"In injuries resulting from comparatively slight violence—which includes the great mass of recognized fractures of the lower extremity of the radius—if this view of the effect of impact upon the lower extremity of the radius be correct, longitudinal fracture would not be present; but in falls from a height, in which the weight of the body with great momentum comes upon the outstretched palm, the conditions are presented in which, if our reasoning be correct, longitudinal fracture may be possible. These are the cases likewise in which other severe injuries are likely to be present, which, by their fatal results, may make actual inspection of the fractured bone possible. These are they which find their way to hospital wards and dead-houses. These formed the class of cases which Dupuytren inspected, and which gave rise to his graphic description of fragments shivered and splintered as if struck by a hammer. To this class belong the specimens now before the society. That the comminution of the lower fragments in these specimens is not the result of their penetration by the upper fragment—the explanation heretofore given of such comminution is apparent for the reason that not one of these specimens presents any indication of such penetration. The result of this analysis of the effects of impact I summarize therefore as follows:

"Impact of the carpus against the lower extremity of the radius is present to a greater or less degree in all falls upon the palm of the hand.

"Its effect is: first, concussion of the expanded ar-

ticular extremity; second, when more violent, propagation upward, with tendency to fractures and dislocation above, at points determined by special conditions met with in each case, this particularly in young subjects; third, crushing in, and longitudinal cleavage of the lower extremity of the radius, more marked with advancing age. The mechanical construction of the inferior extremity of the radius is such as to strengthen it against the effects of impact. The lines of the principal columns of its cancelli are arranged expressly so as to bear force applied in the line of the axis of the bone; the well-known experiment, in which a cubic inch of cancellous tissue with its principal layers upright being submitted to pressure, remained unchanged until more than four hundred pounds had been heaped upon it, illustrates its adaptability to sustain pressure applied in the long axis of the bone, notwithstanding its apparent fragility. It is like the patent car-coupling, the most important part of which is a wooden bar: while the train is running properly along its track, the longitudinal strength of this bar is sufficient to withstand the strain of any weight; but the moment a car leaves the track, and a cross-strain is brought to bear upon it, it snaps and disconnects the train. The lower extremity of the radius will bear any force applied to it in the line of the perpendicular columns of its cancelli, short of a crushing or clearing force, without injury; a cross-strain, however, takes it at a disadvantage—as has been proven by Schmit, a force of from seventy-three to one hundred and thirty-five pounds is sufficient to rend it.

"Impact, in this instance, is a force acting in the direction of the greatest strength of the bone. The injury in question is a lesion transverse to the long axis of the bone. In its production a cross-strain is necessary. What, then, is the source of this cross-strain? Is it of muscular origin? There is but one muscle that can exert a cross-strain on the inferior extremity of the radius—the pronator quadratus. To this, as Dr. Hamilton stated, did the first writer on this subject, Pouteau, of Lyons, in 1760, refer this fracture. This muscle is now so universally rejected as a cause, that it need not be discussed.

"Is it direct impact, as the great mass of surgeons to this day have taught? If the facts which have been passed in review in this note, and the conclusions based upon them are correct, impact must be rejected.

"Is it the same as that which determines the fractures of the lower extremity of the radius in experiments upon the cadaver, the tension of the anterior radio-carpal ligament in forced backward flexion of the wrist-joint? By a process of exclusion we are forced to accept this latter explanation. By a process of instruction it would be quite as certain to arrive at the same end. One question only has been under discussion, viz.: By what mechanism is transverse fracture of the radius within an inch of its lower articular edge produced? The many important complications, found in varying number in different examples of this injury, need not be discussed; but it will be found that the recognition of the primary agency of this force of avulsion will most satisfactorily explain their occurrence, when the total assemblage of the conditions which complicate each individual injury be considered, and likewise will be found to have an important bearing on the adaptation of remedial measures. While my final conclusion, therefore, is that the chief agent of this particular fracture is the anterior radio-carpal ligament, I do not for a moment mean to say that concussion, muscular action, the varying arrangement of the osseus trabeculæ of the cancelli, the varying cohesion of its particles, and perhaps other influences, do not have their effect in modifying the result. The particular injury in any given case is the resultant of all these forces and conditions."

Dr. E. L. Keyes mentioned a case in which the fracture was produced in a peculiar manner. A workman was caught in belting and carried over a shaft in a position of forced palmar flexion, the man being suspended by it, and the characteristic silver-fork fracture was produced. There was no lesion of the soft parts, and the fracture was reasonably high up. Evidently there was no impact, but there was leverage and avulsion.

Dr. Wm. T. Bull presented specimens of fracture at the lower end of the radius, produced by avulsion. Upon nineteen arms he had produced forced dorsal flexion, mostly by locking his fingers into those of the subject and forcing the palm of the hand back. The following was the result: in ten no fracture was produced, in five there was rupture of ligaments, and in five there was no lesion. In nine cases fracture was produced, and of those five were transverse, with the distance from about the centre of the articular surface three-eighths of an inch in three, one-half inch in one, and five-eighths of an inch in one. In the other four cases the fracture was oblique, and measuring as before, the oblique line crossed a point about one-half inch above the articulation. In all the experiments the amount of dorsal flexion was very much more than that which he believed existed when the fracture was produced by an ordinary fall.

One peculiar feature of his experiments was that in ten out of the nineteen cases no fracture was produced; and from his results—which of course were derived from too small a number of cases to be accepted as a general rule—Dr. Bull was disposed to recognize some other factor than simple avulsion in the production of the fracture under consideration.

Dr. L. A. Stimson added that, on leaving the building after the last meeting of the society, he stumbled, and falling, received a violent concussion upon the hand, sufficient to enable him to locate the point of impact. It was upon the heel of the thumb. Subsequently he went to the dead-house and sawed longitudinally through hands and arms, at a point corresponding to that at which he received the impact in his fall, and he found that it passed, not through the *third* metacarpal bone, but through the *second*, and through the scaphoid, the trapezium, and the trapezoid. He presented a tracing of the section, which showed, contrary to Dr. Pilcher's diagram, that the line of impact lay in front of the posterior border of the radius, and was directly continuous with the long axis of that bone, so that no crossed strain existed.

It was evident, from examining the specimens presented at the last meeting, that the hand is attached to the forearm in a manner which admits of considerable mobility—not in the angles of flexion and extension alone, but in direct elongation of the limb. When a man falls, all his muscles ordinarily are tense, and his hand is not at a right angle, but at an angle with the forearm of about forty-five degrees. Moreover, the tension of the muscles, both of the flexors and extensors, taking the place of the ligaments, draws the carpal bones strongly back against the radius, holds them there, and not only diminishes

the distance as represented in Dr. Pilcher's diagram, but brings the carpus still farther back under the radius.

It also seemed to Dr. Stimson that the flexor muscles received the first of that strain. In his own case there was none of the strain which one recognizes as received upon elastic muscles. The shock was transmitted directly through a bony line.

Dr. Hamilton remarked that—as he had already stated at the last meeting—the discussion rested mainly upon the existence of fact concerning what is observed in specimens; by which he meant to say that it was very difficult to settle this question simply with anatomical or physiological arguments. Dr. Pilcher has raised one point which is somewhat difficult to meet; and in effect it is that museum specimens—those presented from the New York Hospital and others—do not represent the classical fracture, but rather the injury produced by extreme violence, accompanied by other injuries which caused the case to terminate fatally. The same observation may be extended with equal propriety to all specimens, whether from museums or from private collections. Dr. Hamilton admitted that it was a difficulty with which the subject had to encounter. But we were not entirely sure that, if permitted to see all the cases which occur in private practice, and to make an examination of the bones, we should find the line of fracture different from that seen in museum specimens, in which the patient had died from the severity of the injury. The value of the argument, however, should be admitted. Yet there remains a sufficient number of facts to enable us to settle the question *presumptively* as to what is the causation, what are the efficient agents in the production of this fracture. If we should find, as he thought we had, that there was a greater uniformity than Dr. Pilcher seemed to think regarding the line of fracture in the museum specimens, that is, high up—in clinical observation it seems to be high up—and in those specimens which are furnished from the cadaver by avulsion, where there was presumptive evidence, may not the physiological argument show that I am more nearly correct than those who regard avulsion as the sole cause?

In addition to the ten specimens of fracture of the lower end of the radius, caused by avulsion upon the cadaver, and presented by me at the last meeting, I have now to present the following examples, supplied at my request by Dr. John H. Girdner, Asst. Demonstrator of Anatomy in the New York University.

1st. Female, aged fifty-six.—Right arm; forced dorsal flexion. Line of fracture curved from side to side, with convexity of upper fragment downward; nearest point one-half inch from the joint; also a fracture of the styloid process of the ulna.

2d. Left arm of the same person.—Dorsal flexion. Line of fracture oblique from side to side; nearest point one-half inch.

3d. Woman, aged fifty-six.—Right arm; dorsal flexion. Line of fracture irregularly transverse; nearest point one-half inch.

4th. Same person.—Left arm; dorsal flexion. Line of fracture nearly transverse; breaking off only the anterior lip of the radius, about one-fourth of an inch from the lower end.

5th. Male, aged twenty-five, strong muscular man.—Right arm; dorsal flexion. Dr. Girdner, applying the whole weight of his body—about one hundred and forty-seven pounds, was unable to break it. Another gentleman, weighing one hundred and sixty pounds, then added his weight, and the two united were unable to cause a fracture.

6th. Left arm of the same man.—Dorsal flexion. Their united strength would not break the bone; but something was felt to give way, which was probably some of the deep fibres of the anterior carpo-radial ligament.

7th. Right arm of an old woman.—Fracture at base of the apophysis of the radius.

Of the entire number—fifteen—which have been presented by me to the Surgical Society, illustrating fractures by avulsion made upon the cadaver, three were fractures caused by forced palmar flexion, and the remainder by dorsal flexion.

Of the examples caused by palmar flexion, none resembled in any respect the classical fracture.

Of the examples caused by dorsal flexion only three have any resemblance to the fracture in question, namely, the right and left arms of the woman aged twenty-two, and the right arm of the woman aged fifty-six, neither of which are removed more than half an inch from the joint.

Four of the examples of the adult males are fractures at the base of the styloid apophyses of the radius, and so also is one of the old women.

In only one example is the styloid process of the ulna broken off.

In not one of them is there such a comminution of the lower fragment, the only comminution being where the lower fragment is so thin as to break with its own weight, or where, as in one instance, there is in addition to the transverse fracture an entirely independent, oblique fracture extending into the joint.

In no case has there been some appreciable impaction or displacement backward at the point of fracture.

Certainly, to any one familiar with the study of this fracture, as it appears in the living subject from falls on the palm of the hand, most of these facts are inconsistent with the supposition that fractures caused by avulsion represent the classical fracture.

In short, it seems to me certain that to produce ordinarily the classical fracture there is required, first, impact; second, avulsion; and third, the action of the muscles to give stability to the bone, in order that the impact may act effectively and in the proper direction—that avulsion alone also is capable of producing a certain number of the fractures which result from a fall upon the hand, but not generally such fractures as have been hitherto recognized among English and American surgeons as Colles's fracture, and among other surgeons as the typical fracture of the lower end of the radius, caused by falls upon the palms of the hands.

In six more examples, not included in the above fifteen, two of which were adult males and four old women, it was found impossible, by avulsion, to cause a fracture, even where the hands were laid back upon the wrists—and in many of the other cases the fractures did not occur until the hands were nearly or quite in that position.

I wish to add, as a valuable contribution to this subject, the "Summary" of a series of experiments upon the cadaver and studies made by Dr. John H. Girdner, at my request, and which, with a detail of the experiments, may be found published in the Medical Record for Feb. 26, 1881.

*First.*—That, for the first few months of life, the epiphyseal junction is about three-fourths of an inch from the radio-carpal articulation, and that, if sufficient force be applied in a direction which in the adult would produce a Colles's fracture, there will be

a separation of this epiphysis, and the hand will present that deformity which is seen in Colles's fracture.

*Second.*—That, between the ages of nine months and one year the epiphyseal junction is within half an inch of the wrist-joint, and forced dorsal flexion will not produce a fracture of the radius, nor a separation of the epiphysis, but a bending of a bone about one-fourth of an inch above the epiphyseal junction, and the hand, left to itself, returns partly to its normal position, and the deformity is slight.

*Third.*—That, from the third to the seventh year of life (and perhaps to the tenth), the epiphysis of the lower end of the radius has almost completely changed to an apophysis, and forced dorsal flexion will neither bend nor break the radius, but will cause a stretching and partial rupture of the anterior ligament of the wrist-joint, and especially of Pilcher's ligament.

*Fourth.*—That, after the fifteenth year, and perhaps earlier, forced dorsal flexion will produce Colles's fracture with characteristic deformity. (The term Colles' fracture is used by Dr. G. as implying any fracture of the lower end of the radius.)

As has been suggested by Dr. Sands and by others, ordinarily, in a fall which produces this fracture, the hand is not placed at right angles; it is not placed in the condition of extreme flexion which is almost invariably required to produce it upon the cadaver. When a person falls in the street, he falls at length with the hand at less than 45° with the radius, so that the force of avulsion must be relatively inoperative.

Dr. Hamilton again directed attention to the striking frequency with which, by avulsion, the base of the styloid process of the radius is carried away just where the anterior ligament has its most powerful insertion. Certainly there was no prevailing expression of that sort found in the dead-house ordinarily.

### ANGIO-SARCOMA.

Dr. E. L. Keyes related the clinical history of a case, after which Dr. W. H. Welch described the pathological changes found in the tumor.

A man, twenty years of age, came to New York and consulted Dr. Sayre, who gave the opinion that the axillary tumor was a cancer, and advised its removal. Dr. Van Buren then saw the patient, confirmed the opinion given by Dr. Sayre, and also advised an operation, which Dr. Keyes performed in Bellevue Hospital on the 26th of February, assisted by Drs. Stimson and Yale, and in the presence of Dr. Sayre.

The tumor occupied completely the thoracic side of the axilla, extending under the pectoralis muscle. The patient was cachectic, and the tumor had grown with very great rapidity. At the time of the operation there was tenderness over the liver. The operation was exceedingly bloody—veins entering the growth from all directions—and the patient became very blanched, but rallied tolerably well. About two and one-half inches of the axillary vein were removed. No swelling of the limb followed. Secondary hemorrhage occurred on the tenth day—not profuse—and was arrested by pressure. The patient died on the thirteenth day. At the autopsy there were found three tumors in the liver; some local peritonitis over one of the largest metastatic tumors in the liver, which gave rise during life to a friction-sound; tumors under the mucous membrane of the intestines, under the peritoneum, in the muscle of the heart, in the lungs, in the spleen and in the kidneys, and in the mesenteric glands. The bones and the brain were not examined. There were no subcutaneous growths.

#### MICROSCOPICAL EXAMINATION.

Dr. Welch presented portions of the axillary tumor removed by Dr. Keyes, together with parts of the liver and of the lung, showing the metastatic growths in these situations. He also exhibited microscopical sections with drawings of the tumor from these various regions. The axillary tumor was of an irregular shape, about as large as an orange, and not enveloped in a capsule. In the fresh condition its cut surface had a variegated aspect, being in places black in color, in other places red, and in others white. The consistence was soft. A teased-out fragment of the fresh tumor showed chiefly large, epithelial-like cells. When hardened, the axillary tumor presented a peculiar and characteristic appearance. It consisted of a mass of closely compacted blood-vessels, varying from one-half to three millimetres in diameter. Each blood-vessel possessed a central lumen and a comparatively thick wall. The blood-vessels ran for the most part parallel to each other, and in transverse section the appearance resembled the cross-cut of a nerve-trunk, each blood-vessel representing a nerve-fibre, but possessing a lumen. In a few places the appearance was more homogeneous, the blood-vessels not being evident. It was possible, by teasing, to isolate the blood-vessels and thus to demonstrate the existence of branches, but no anastomoses were discovered.

By microscopical examination the axillary growth was found to present, in the most characteristic manner, the structure of an angio-sarcoma. In some places the blood was preserved in the lumen in the vessels, in others it was absent; in a few instances the vessel contained a thrombus. In the majority of blood-vessels two or three layers of smooth muscular tissue were present immediately surrounding the endothelial lining. Outside of the muscular ring was a narrow zone of a homogeneous, hyaline substance, and surrounding this was a mass of cells contained in the meshes of an adenoid reticulum. This cellular mass constituted the greater part of the vascular wall. The cells were in a few places scarcely larger than lymphoid cells, but for the most part were much larger, were irregular in shape, and resembled epithelial cells. In some places, especially in the periphery of the vascular wall, the cells were grouped together in large alveoli. The stroma between the vessels was imperfectly fibrillated, of a lax texture, and in places richly infiltrated with extravasated blood. Here and there it was of a mucoid character. It was especially in this intervascular stroma that cells containing yellowish brown pigment-granules and diffuse pigment were found, but similar cells also existed in the cells in the walls of the vessels. Exceptionally, the lumen of the vessels was obliterated by the new-growth. The structure of the metastatic growths resembled closely that of cancer, and for the most part was not to be distinguished from it. Occasionally blood-vessels presenting the same infiltration of their walls with cells, as in the axilla, were to be found, but in general the metastatic growths consisted of large alveoli filled with rapidly proliferating large cells like epithelial cells; the interalveolar stroma consists of vascularized connective tissue containing cells different in character from those in the alveoli. Cells containing granular and diffuse pigment were found mingled with unpigmented cells in the alveoli.

Dr. Welch said that a similar angio-sarcomatous growth of the axillary glands had been described by Putiata, and that Kolacgek, Maurer, and others, had observed the occasional presence of pigment-cells in these tumors, giving them a melanotic aspect. He remarked that the demonstration of smooth muscular tissue in the walls of the vessels was of interest, as it has generally been stated that the vessels in angio-sarcoma resemble capillaries, whereas in this case they resembled small veins. He was not able to determine whether the pigment in the cells was formed from the extravasated blood-globules or by a chemical metamorphosis of the protoplasm. It was, moreover, important to note that while the origin of the growth from the adventitial cells of the blood-vessels was clearly demonstrable, portions of the tumor presented a structure not to be distinguished from that of carcinoma, and that transitions could be observed between the adenoid reticulum containing lymphoid cells and the large aveoli filled with epithelial-like cells. Those who insist upon the epithelial origin of cancer would refuse to call these portions of the growth cancerous. This specimen, however, demonstrates, as others have done previously, that growths springing from connective-tissue cells may present all the morphological characters of carcinoma.

The society then adjourned.

## Correspondence.

### THE EFFECT ON THE EAR OF HIGH ATMOSPHERIC PRESSURE IN TUNNEL CONSTRUCTION.

To the Editor of The Medical Record.

Dear Sir: Now that a large number of men are employed in the construction of tunnels, any injury to which they are liable may be of interest to the profession. My attention was drawn to this subject shortly after work on the Hudson River tunnel was begun, by two of the workmen who applied to me for relief at the New York Eye and Ear Infirmary, on account of aural injuries arising from their confinement in the compressed air-chambers.

One of these patients, on examination, was found to have a subacute inflammation of the middle ear; he had contracted a cold in the head from exposure in the tunnel, and this had prevented the air passing freely through the Eustachian tube of one ear; air being thus kept out of the tympanum, the unusual pressure in the external meatus drove the drum-head inward, the consequences being pains in the ear, tinnitus aurium, vertigo, and deafness. The other patient was found to be suffering from the impaction of a collection of wax in the external meatus; he experienced pains in the ear from the increased pressure upon the impacted wax, and likewise had tinnitus aurium and vertigo. Although impaction might have occurred in this case under other circumstances, yet I am convinced that the drum-head suffered greater injury from the impaction of wax under the additional pressure than would otherwise have been the case.

The cause of aural troubles among workmen and others who may frequent these compressed air-chambers is quite evident: the usual air-supply is cut off from the tympanum, either by closure of the Eustachian tubes from cold in the head, or perhaps by the direct pressure on the guttural mouth of the tube; the extraordinary pressure on the drum-head from without, of three or four times the ordinary atmosphere, in the meantime forces the drum-head inward, causing great tension of the transmitting mechanism and inflammation of the middle ear. As is well known, in the normal condition of the ear there is a constant renewal of air in the tympanic cavity during each respiratory act, thus enabling the membrana tympani to perform its functions; when, however, the tympanum is deprived of its normal air-supply, there is no longer any resistance to the external pressure, and retraction of the membrane is unavoidable.

The injurious effects of the compressed and unwholesome air of tunnels on the health of workmen are well known. Dr. John Green, who made some interesting observations on the subject during the construction of the piers of the Mississippi River bridge at St. Louis, some ten years ago, states that rupture of the tympanic membrane sometimes occurred to those who exposed themselves in the air-chamber.

I am inclined to believe that no one can remain long in an atmosphere of some sixty pounds pressure to the square inch without experiencing unpleasant effects in the ear, and the greater number of those who have chronic aural diseases would soon be more or less incapacitated. Should catarrhal troubles be experienced—and as a matter of fact they are very common among these underground laborers—closure of the Eustachian tubes would most likely occur.

We may, therefore, conclude that injury to the ears can only be avoided, in even healthy individuals, by the observance of certain precautions, and that a large number of those employed in tunnel construction cannot escape, however careful they may be.

It would seem to the writer that there should be a medical examination of the ears of all laborers before they are permitted to enter an air-chamber where the pressure is over two atmospheres, and that, where men are exposed to a greater pressure, the possible effect on their ears should not be overlooked.

In order to prevent injury to the ears during the period of exposure, the writer would suggest that respiration should take place with the mouth closed; that whenever a feeling of increasing pressure is experienced, further relief may be obtained by resorting to the Valsalvian experiment or to the act of swallowing. These recommendations may seem unimportant, but one may well believe that men in the condition of the patients I have alluded to above would be incapacitated for any position where the lives of others might depend on their clear-headedness and good hearing. The men themselves often have reasons for concealing defects even when pain or deafness exists; hence the necessity for frequent examinations being made.

Samuel Sexton.

12 West Thirty-fifth Street, June 30, 1881.

Spain versus the Buchananites.—Spain has risen up against the Buchananites. A recent royal mandate prohibits the practice of medicine and surgery on the part of those who hold bogus diplomas issued by the notorious Dr. Buchanan. Cuba particularly seems to suffer from the presence of this class of practitioners.

## CURARE AND MOTOR-NERVE ENDINGS.

### A Response to Dr. Reichert.

To the Editor of The Medical Record.

Sir: I regret that a recent criticism of Dr. Reichert on a previous article of mine on the above subject is, to some extent, founded on an entire misapprehension of the tenor of my thesis; that other portions of his criticism are disingenuous and unfair, and place words, ideas, and even propositions in my mouth for which I am not only not responsible, but which I repudiate. Any one at all conversant with the scope of previous articles of mine in the Record, must be aware of this almost at a glance. I am charged with a misquotation, which I flatly deny. Several of the arguments put forward by Dr. Reichert as comparatively new—for example, those relating to the sartorius, to ideo-muscular contraction, to the behavior of protoplasm, etc.—have been superseded by still more recent facts, and the subject was discussed by me at some length in the Record of March 26, 1881, and elsewhere. As no attempt has been made to refute these arguments, and as I am of opinion that a discussion on the subject between Dr. Reichert and myself would be neither to our mutual advantage nor to that of your readers, I must decline any further reply. I am quite content to leave the matter, as it stands, to the judgment of the profession, and, if need be, to that of posterity. Yours, etc.,

Thomas W. Poole, M.D.

## GUNSHOT-WOUND OF LIVER.

To the Editor of The Medical Record.

Sir—In view of the great interest manifested just now in gunshot-wounds of the liver, both as to prognosis and treatment, I make bold to send you a few notes of a case which occurred last winter at this post, and hope they may not be without interest to the profession and encouragement to the numerous friends and admirers of President Garfield.

Robert Nelson, colored, a private of Company A, Ninth United States Cavalry, born in Richmond, Va., aged twenty-seven, was wounded on December 2, 1880, at the Mescalero Indian Agency. The patient was on horseback, and was shot by an Indian on the hill above him. The projectile, presumably a conical rifle-ball (calibre $\frac{44}{100}$ of an inch), shot from a Winchester repeating rifle, entered the body over the sixth left costo-sternal articulation, passed thence from left to right in front of the junction of the xiphoid cartilage and the gladiolus, from thence somewhat backward and downward, emerging just below the eighth rib, about two inches anterior to its angle. The shooting occurred thirty-eight miles from the post. At first it was not supposed that the chest-cavity had been entered, but from the superficial course taken by the ball at the wound of entry it was surmised that its entire track lay between the ribs and the skin, as quite often happens. On December 4, 1880, about forty hours after the infliction of the wound, the patient was put into an ordinary government spring-wagon and brought in a continuous journey into the post. He bore the ride remarkably well, only complaining when severely jolted. He was made as comfortable as possible. Did not suffer markedly from shock. There was no considerable hemorrhage; no great pain; mind clear and hopeful. The next morning, Acting Assistant Surgeon Atkins, U.S.A., passed a probe from the wound of entrance through to that of exit. The probe (a long one) passed in a nearly straight line, and demonstrated beyond a doubt that the bullet had cut its way through the lower anterior portion of the right lobe of the liver. The periosteum had been scraped off from the anterior surface of the sternum and from some portions of the ribs. No bones had been broken, and the gall-bladder was not, to all appearances, wounded (however, more of this anon).

The patient is a remarkably strong, tough negro, nearly black. Says that he has never been sick, except once with a broken leg, from which accident he made an excellent recovery.

No other surgical treatment was adopted than daily washings with carbolized water. (The water for several days could be injected entirely through the wound.) Tonics and nourishing food comprised the rest of the treatment. Only on December 8th and 9th (the sixth and seventh days since the infliction of the wound) did the temperature show a considerable rise, and was easily reduced by quinine. After one good purge had been administered the bowels acted normally, and the appetite had rather to be checked than encouraged.

The patient, like our distinguished President, is of a brave and cheerful disposition. Indeed, he was wounded in the discharge of an arduous duty, which he voluntarily undertook.

In a few days after admission to the hospital the discharge from the lower wound, which had been at first quite moderate and sero-sanguinolent in character, began to increase in quantity and become quite yellow in color. The upper wound (that of entry) soon closed. In ten to twelve days a considerable amount of nearly pure bile was found every morning upon the bandages. This discharge proved quite acrid, and considerable patches of skin on the abdomen, side, and back were lifted off by it. The patient had never complained much of pain, but when the biliary matter ran over the excoriated surfaces he would cry out bitterly. For a while the patient complained of a cough which hurt his side and aggravated the discharge.

For about three weeks this abundant discharge continued, seeming more like pure bile every day, then suddenly almost ceased. Again, in about forty-eight hours, it returned, and was more abundant than before. Fears were now entertained that a permanent biliary fistula would establish itself; but our apprehensions proved to be unfounded, for the wound went on to heal kindly. The injections of carbolized water were discontinued, and on January 25, 1881, less than eight weeks since he was shot, the patient returned to duty with his company.

For a while he was put on light duty and not required to wear a belt, which distressed him, but at the present writing he is doing full military duty, and has done so for a considerable time.

He informed me to-day (July 14, 1881) that he is as well as he was before he was wounded, except that he is not quite so strong generally, and cannot lift such heavy weights as formerly. He also, at times, notices a slight stitch in his side upon coughing or sudden and severe exertion, but attaches no importance to it. Very respectfully yours,

Richard C. Newton, *Asst. Surg. U.S.A.*

Fort Stanton, New Mexico, July 14, 1881.

The American Otological and Ophthalmological Societies held their annual meetings at Newport, R. I., during the past week.

## ARMY NEWS.

*Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from July 17, 1881, to July 23, 1881.*

AINSWORTH, F. C., Capt. and Asst. Surgeon. Relieved from duty at Fort Clark, and assigned to duty as post surgeon at Fort McIntosh, Texas, relieving Asst. Surgeon Gorgas. S. O. 90, Department of Arizona, July 14, 1881.

GORGAS, W. C., 1st Lieut. and Asst. Surgeon. When relieved at Fort McIntosh, Texas, to report to commanding officer Fort Duncan, Texas, as post surgeon. S. O. 90, C. S., Department of Texas.

## Medical Items and News.

THE PRESIDENT'S WOUND.—Dr. W. H. Dukeman, of Olean, New York, writes: "The article on 'The Wounded President,' of July 9th, was read with the deepest interest, and has furnished the public with the most accurate and intelligible account yet published. But it does not seem possible, much less probable, that the ball is lodged in the liver. Had the ball struck the eleventh rib and glanced upward and struck the tenth, the direction of the spent ball would be in a downward direction, owing to the position of the rib. Again, if the ball first struck the tenth rib and glanced downward as to strike the eleventh, from the position and slant of the eleventh rib in the posterior region of the body the ball would again take a downward course. From the anatomical outlines and borders of the ribs, it seems very clear to me that the course of the ball was in a downward direction, and from the great amount of tissues in so muscular a man, there would be so much spent force that the ball could not reach the substance of the liver, respiration greatly interfering with the force of the ball by the change in the position of the various tissues intervening, and the great amount of elasticity thereby produced. With these and various other obstacles of minor importance, I am led to the conclusion that the ball has taken a downward course and is lodged in the intervening space existing between the membranes of the internal organs and the posterior abdominal muscles. The experiments performed by Professor Weisse are of little value, for in the cadaver everything is at perfect rest, while in the living subject, as already shown, motion would greatly interfere with the direction of the ball.

"I would suggest that the Professor make the experiment on the assassin, provided he is a skilled marksman."

GUNSHOT-WOUND OF ABDOMEN.—Dr. James C. Neal, of Archer, Fla., writes: "The interest taken by the profession in the recent tragedy at Washington will doubtless call up many similar cases, and having had a remarkable instance in my practice I present it:

"In January, 1878, Ed. P——, a muscular negro, twenty-six years of age, while card-playing with a white man, in a saloon at this place, was shot with a heavy Colt's navy revolver, at less than five feet distance, the ball entering the abdomen one inch below and two inches to the left of the umbilicus, emerging an inch above the crest of the right ilium and about three inches from the centre of the spinal column, then through an inch of yellow pine plank, five feet behind the negro. I saw him twenty minutes afterward; found him cold, nearly pulseless, and vomiting at first blood mixed with the half-digested food in the stomach, then fresh blood alone. There was considerable hemorrhage from both wounds—the anterior showing a bloody knuckle of intestine, the posterior a lacerated fragment of omentum. I gave him a tablespoonful of brandy in which a drop of dilute acid. carbolic. had been dissolved, restored the intestine and omentum to the abdominal cavity, stitched up the wounds, applied water-dressings, gave him a quarter-grain of morphia, and exhorted him to prepare for a speedy exit. That night he again vomited blood, and passed a quantity of clot and some fresh blood per anum. The next day he was removed home—two miles. Some reaction set up the third day. I gave morphia freely, enjoined abstinence from solid food, used cold-water compresses, and, to everybody's surprise, the eighth day afterward he walked into town and began work.

"While replacing the intestine I could easily introduce my thumb, and at so close a distance the heavy ball did not dodge anything. I have often wondered if the ball was not heated enough to partially burn the penetrated tissues.

"The patient is a burly rail-splitter, lives on fat bacon and corn-bread, is unclean in habit, and much given to whiskey. He lives near here, and, D. V., I hope to make a P.-M. of him some day, to ascertain what injuries were sustained, as this will be about all the satisfaction I will ever get from the case."

THE NEW YORK MEDICAL MISSION is a somewhat novel form of charity, which has just been established in this city, at No. 5 East Broadway. From 9.30 to 10 A.M., the names of persons who wish medical treatment, but are too ill to leave their homes, are taken. At 2 P.M., a short religious service is held, after which the patients will be treated in the dispensary. The medical superintendent is Dr. George D. Dowhout, who has been very successful in establishing similar missions in London and Philadelphia.

SEA-AIR AND INFANTILE DIARRHŒA.—The Sea-Shore Home has just issued its annual report for 1880. Dr. Edward T. Williams, the physician in charge of the home for several years, thus sums up his experience:

"1. Sea-air is *not* an infallible cure for infantile diarrhœa. Some cases will die under the best management.

"2. The vast majority of cases get well, if removed early and properly fed and cared for.

"3. After decided collapse and head-symptoms come on, death is the rule, recovery the fortunate exception.

"4. Bronchial and pulmonary complications are usually aggravated by the cold air.

"5. Not a few cases are made worse by exposure in stormy weather, and the cold nights of the last of August and September; at these times, both fires and extra clothing are needed, and some take cold in spite of them. Indeed, it has seemed to me that the autumnal diarrhœas are chiefly caused by cold, and are unsuited for the sea-side."

ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION.—The forty-ninth annual meeting of this association will be held at Ryde, Isle of Wight, on August 9, 10, 11, and 12, 1881, with Prof. G. M. Humphrey, President, in the chair.

The address in medicine will be delivered by Dr. John Syer Bristowe.

The address in surgery, by Jonathan Hutchinson.

The address in obstetrics, by Dr. John G. Sinclair Coghill.

The work of the meeting will be done in four sections and one subsection.

Fifteen subjects have been arranged for discussion. In medicine, Dr. Gowers will open a discussion on acute spinal paralysis, and Dr. L. Brunton a discussion on jaundice. In surgery, Mr. Stokes will open a discussion on resection of the knee.

Battey's operation, and the mechanical treatment of uterine flexions and displacements will be discussed in the obstetric section.

In the section of public medicine, the subject of vaccination with calf-lymph, the origin of enteric fever, and cremation, will be discussed.

There will be the usual annual exhibition of instruments, drugs, specimens, and books.

THE SOUND PRODUCED BY CONTRACTION OF THE TENSOR TYMPANI.—Dr. G. H. Felton, of Lynn, Mass., writes: "This sound, referred to by Dr. Cruse in a recent number of the RECORD, and by others previously, is one that I have always been able to produce at will, without contracting any facial muscle. I have the same control over the tensor tympani, to the contraction of which I also attribute it, as over any other muscle, except that I cannot cause its contraction in one ear without causing it in the other. This rhythmic character of muscular contraction, here apparent to the ear, may also be demonstrated by very powerfully contracting the flexors of the forearm, for instance, which causes a trembling of the arm, both seen and felt."

ELECTRO-MASSAGE.—Dr. J. Butler writes: "There are two articles in your issue of June 25th to which I am impelled to call your attention in the name of justice and fair play, the first on 'Electrolytic Urethrotomy,' on page 709, and the second, 'Instruments for Electro-Massage,' page 724.

"In regard to the first-mentioned article ('Electrolytic Urethrotomy'), I would say that in the spring of 1879 I wrote an article describing this operation in detail, and giving the result of several years' experience with it; giving also a description of the instrument which I had invented and used for performing the operation. This article was published in the *American Journal of Electrology and Neurology* for October, 1879, a copy of which I now send you. The method I adopted and recommended was precisely similar to that now described and claimed as original in your columns, as you will see by referring to the journal sent.

"In reference to the second article, permit me to say that in the *Medico-Chirurgical Quarterly* for January last, there appeared from my pen a description of a new treatment, to which I gave the name of 'electro-massage,' the name, the treatment and the instrument for carrying out the treatment being original. Since then, the substance of this article has been copied into a large number of medical journals. The leading physicians all over this country use the treatment, recommend it, and acknowledge its source. Previous to writing this article I had employed the treatment for years, tested its value, and made the instrument as perfect as possible before putting it before the profession. I mention these points to show that the treatment has been in use a considerable time, and also that it has been made thoroughly public. Imagine my surprise, therefore, on opening the pages of your journal, on finding an article on 'Instruments for Electro-Massage:' an article describing Duchenne's old roller, and claiming it as original; the old and well-known electric brush, and claiming it as original; and, lastly, *my* electro-massage—or, rather, an inferior imitation of it—is counterfeited and claimed as original, and not one word of credit given to the original source.

"In conclusion, I would remark that the article in question is peculiarly well written for a nurse. It is certainly rather unusual to hear a nurse talk about cords, arcs, degrees, tangents, radii, etc."

MENTAL DISTURBANCE IN CHOREA.—Dr. E. C. Spitzka writes: "In your issue of July 9th, a report of the proceedings of the New York Neurological Society represents me as denying the existence of mental disturbance in chorea. Without the qualifications which I added to that statement, I should be seriously misrepresented by such a report. What I did say was, that excluding a series of cases not exceeding ten per cent. of the total, and aside from the irritability naturally due to an annoying affection, that there was no mental disturbance in chorea of children. The contrary position taken by several members of the society was that mental disturbance was a constant feature, and one member stated that even where no other defect could be discovered, at least a decided moral obliquity would be found.

"I refrain from adding to what was stated at the meeting, as I trust to deal with this question *in extenso* soon. But I would ask for the insertion of this correction, in order that those whose large experience with cases of mild chorea enables them to come to a reliable conclusion on this head, may not suppose an extreme view to have been promulgated, which was in reality never entertained."

SMALL-POX AND THE EFFICACY OF VACCINATION.—This question has recently had new facts brought to bear upon it by Dr. Buchanan. During the past year the death-rate per million in London, from small-pox, was ninety among the vaccinated against three thousand three hundred and fifty among the unvaccinated. Similar statistics show that the mortality among children under five years of age was forty and one-half per million among the vaccinated, against five thousand nine hundred and fifty among the unvaccinated. Among adults the mortality rates are one hundred and eleven for vaccinated, to one thousand nine hundred and six for unvaccinated. These figures show very clearly the efficiency of vaccination, and also the need of revaccination.

GYNOMANIA ONCE MORE.—A subscriber sends us the following: "My attention has been called to Dr. H.'s description of a gynomaniac, as he has named him, and Dr. Spitzka's remarks on the same in your valuable journal. The latter remarks that they are very rarely committed to the lunatic asylum; but, I would add, they are more often sent to jail. In the summer of 1876 one of your city judges actually sentenced such a person to *six months* on the Island, in default of bonds for a *thousand dollars*. If this is recognized by the faculty as a disease, and is, as Dr. Spitzka remarks, incurable, should it be punished as a crime, especially when the practice of these little peculiarities injure no one but the poor maniac?

"I think it would be well to request some one of these peculiarly constituted men, who have such an irresistible passion for lady's attire, to exhibit himself to the faculty, or at least permit a committee of eminent men to examine him physiologically and psychologically, so as to ascertain, if possible, the laws that govern such phenomena."

# Original Communications.

## IMPORTANCE OF THE EARLY RECOGNITION OF EPILEPSY.

AN ESSAY READ BEFORE THE CONNECTICUT STATE MEDICAL SOCIETY, MAY 26, 1881.

BY E. C. SEGUIN, M.D.,

NEW YORK.

THE paper which I have the honor to submit to the society is one which treats of an eminently practical subject, handled, I trust, in a practical manner. It is upon the importance of the early diagnosis of epilepsy in its principal forms. This essay is also a logical correlative of the one which I presented to the Medical Society of the State of New York in February of this year, upon the early diagnosis of some organic diseases of the nervous system.*

My attention has for several years been attracted by the fact that most cases of epilepsy were allowed to go on for months or years, perhaps passing the stage of curability, without a correct diagnosis and proper treatment. The mistakes of this sort which come under the observation of specialists are very numerous, and many of them have been committed by leading members of our profession. I shall present a number of histories of cases illustrating these errors of diagnosis, and I would earnestly request my readers to bear in mind that I cite these mistakes only for the purpose of instruction, and not at all with the idea of fault-finding or of exalting my own diagnostic acumen. Several of the physicians referred to anonymously in the following pages are gentlemen who are really eminent as teachers and practitioners, and at whose feet I would be glad to sit. Their errors were not due to carelessness or ignorance, but to a too ready acceptance of medical laws which pass current, yet are wrong.

The subject in hand is really a very complicated one, and I cannot pretend, in a paper whose length is limited, to enter into full details concerning the diagnosis of all the forms of epilepsy, and of the various symptom-groups which may be mistaken for it. To do this would involve a prolonged and minute discussion of many mooted points.

All I can do is to show that in most cases even the first attacks of epilepsy, of grand-mal and of petit-mal, can be recognized as epileptic.

I shall first relate cases in which the grand-mal or regular spasmodic attacks were allowed to go on without proper treatment for want of a correct diagnosis, and offer some comments on each case.

CASE I.—Female child, aged eleven years, seen May, 1881. Was always a bad sleeper, of a restless disposition, and irritable. Was easily made to turn pale under excitement. Nights disturbed by talking, crying, and even by nightmare. Five years ago the family physician regulated child's diet and instituted some simple treatment; since which attacks of pavor have been infrequent—very rare during the past winter. Never had chorea. Indigestion has been a prominent feature in the child's life; she was fond of sweets. The urine was often found laden with oxalate of lime, and once, last summer, a trace of albumen was discovered.

As regards any tendency to epilepsy, it appears that the child's mother is very nervous, and that one of her brothers was epileptic from childhood, in consequence of a fall (?).

In June of last year the patient travelled about somewhat, alone with her father, without the supervision of mother or nurse. Was probably a great deal exposed to the sun. On or about June 20th, in the early evening, while out on the grass, fell in a severe convulsion. Seemed in poor health afterward, and the family physician, considering the attack as caused by indigestion, or at any rate as symptomatic, prescribed a strict diet and an occasional dose of calomel.

On September 29th, in the cars, returning home from the country, was excited and overheated. After arriving at the house had her second attack, characterized by loss of consciousness, universal spasm, frothing at the mouth. Did not bite tongue, and was not inclined to sleep after fit. Traces of albumen in urine. Treatment was still directed to the disordered state of the digestive apparatus as a cause of the epileptiform attacks.

A week later, October 6th, after some excitement, in presence of her mother, suddenly fell in a convulsion, lighter than the previous ones.

After this a moderate bromide treatment was added to the management of the case, and no attack occurred until April 25, 1881.

The bromides, though given judiciously and by a very skilful hand, produced irritability and other disagreeable symptoms, which led the child's mother to cease giving them some time in January.

An attack on April 25th was characteristic, but slight, and followed by sleep. After it urine found laden with oxalate of lime.

May 2d, while the child was being prepared for bed, she felt some warning sensation (not a definite one); rushed, nearly undressed, to her mother, stood speechless before her, and was slightly convulsed in the throat.

A sixth and last attack occurred in the evening of May 8th. Sat in a spasm, foamed at the mouth; was rigid one instant, and then had clonic spasms of extremities; face not convulsed (?); pupils not observed.

There have been no "dizzy spells" or petit-mal.

It is needless to add that I advised a resumption of the bromide treatment in this typical case of epilepsy, with special precautions against severe bromic symptoms.

This case is peculiarly instructive, because the physician who treated it as one of lithæmia and oxaluria, with symptomatic convulsions, is an unusually intelligent practitioner and a gentleman of high standing in the profession. His judgment was warped by the currently accepted notions of the frequency of eclampsia.

CASE II.—Mrs. C. S., aged thirty-four years, seen March, 1879. Former health good. During 1876–77 she had had much malarial fever, irregular chills, and attacks of fever.

In April, 1878, after having been confined to the house by an attack of fever, she had a first convulsion. This occurred in sleep, after dinner, at about two o'clock P.M. It was a full convulsive seizure, in which she bit her tongue, fell heavily from the lounge on which she was lying, and hurt her face.

A second attack recurred on the night of August 2d. She groaned, was convulsed, frothed at the mouth, and bit her tongue.

A third attack of grand-mal occurred in the night of January 1–2, 1879. This was less severe, but she bit her tongue.

* *Vide* THE MEDICAL RECORD, February 26, 1881.

Has had few attacks of petit-mal, consisting in momentary confusion.

The significance of the first attack was ignored in this case, and a bromide treatment was not begun until after the second seizure. Since then has had bromide irregularly, at times too little, sometimes none at all, and occasionally too much.

Etiology obscure. Owing to patient's age and the absence of any inherited tendency, I inquired particularly as to symptoms of syphilis, with negative result. Frequent examinations of the urine have shown no sign of renal disease. As regards syphilis, the subsequent course of events, improvement without mercury or iodide of potassium, has justified my conclusion at the time of my examination.

It is sufficient to state, with respect to treatment, that Mrs. S. was put on a careful course of chloral and potassium bromide, which last year was changed to ammonium and potassium bromides. She has never required very much of the anti-epileptic medicines, and at times has had various tonics.

To the present time, May, 1881, a period of twenty-nine months, she has had no attack of either kind, and her general health is excellent. Since the beginning of the year I have made a small reduction in the amount of bromide, and intend to make a further reduction of a few grains every three months. Her present dose of the mixture of ammonium and potassium bromides is .50 (7.5 grains) on rising, and 2.5 (37.5 grains) at bedtime.

If, after exclusion of uræmia and syphilis, the first attack had been diagnosticated as epileptic and treatment instituted, the probability of cure would have been greatly enhanced. The next case is an illustration of this statement.

CASE III.—Miss F. O., aged sixteen years, seen May, 1878. A well-developed, healthy girl, menstruating since three years, with little pain. Mother neurasthenic; one brother had an exquisite attack of articular neuromimesis (both ankles). Patient never hysterical.

Yesterday, May —, menses were flowing, when, in order to be able to go with comfort to a dancing-school *soirée*, she used a cold foot-bath and checked the flow. She danced a good deal in the course of the evening, and then took supper. To-day arose late, and seemed languid. At about seven P.M. had a severe fit; gave a cry, lost consciousness, fell heavily; body was rigid and pupils wide open, then had clonic spasm, frothed at the mouth, and bit her tongue; was stupid and sleepy after attack, whose actual duration was not timed. It was witnessed by a very intelligent young gentleman, who gave me the above particulars. I saw the patient at eight o'clock —one hour after the fit. She was conscious, complained of headache, of soreness in body generally, and of her bitten tongue. The pulse was rapid, the axillary temperature was over 37.8° C. (100° F.); the patient's face and neck were covered with numerous minute petechiæ resembling flea-bites; menses had returned.

The seizure was typically epileptic. I anticipated a return of attacks only at the menstrual periods, and consequently instituted a rather peculiar treatment, which was carried out with unusual faithfulness. Bromide of potassium, 1.50 (about gr. xx.), was to be taken night and morning for ten days, including the menstrual period; beginning three or four days before it; and the patient was to be kept in bed or on the lounge for two or three days at the beginning of the flow.

A few days ago (May 14, 1881) I had a note from the patient's mother, stating that her daughter had never had a return of spasm (or any other epileptic manifestation), and that she was still keeping quiet for two days in the menstrual week, and taking bromide of potassium.

This makes an interval of more than three years, and I must say that I consider a return of attacks exceedingly unlikely. Still I have recommended continuing the periodical treatment for six or eight months longer.

CASE IV.—Mr. C. D——, aged twenty-one, seen February, 1877. Patient is a large and well-developed young man, something of an athlete. Former health good, but hygiene bad; used wine and tobacco from twelve to eighteen years, and probably committed sexual excesses. No epilepsy in family; mother subject to migraine; patient not. No dizzy spells. Head not injured.

First attack occurred when he seemed in good health, on Christmas day, 1873. Was sliding down hill, when he lost consciousness and fell off the sled, remained stiff for a few minutes, and was sick at his stomach. From his knowledge of the circumstances and from what he was told, the patient is positive that the fall from the sled was not accidental, but that he first "fainted." In two or three days was well.

Remained perfectly well for ten months, and had a second attack in October, 1874. Was sitting chatting with friends; lost consciousness, became sick at the stomach; did not bite his tongue. Had muscular soreness the next day. In the summer of 1875, after rowing on Lake George, had a third attack, without aura; fell off a dock into the water. Fourth attack in May, 1876, preceded by an undefinable preliminary sensation; attack was again accompanied or followed by vomiting. Fifth attack in October, 1876. This was treated, by Dr. X., as stated in the letter which is appended. Another attack occurred toward the close of 1876, and the seventh (last) seizure was on February 9th of the present year (1877), without warning or vomiting. In the other attacks the warning sensation was quite prolonged; on one occasion was able to walk nearly a quarter of a mile before falling.

He has had no petit-mal, and general health has been unimpaired. Has done well at college.

The following letter was sent to me with the patient, and it well illustrates the erroneous notions which prevail with respect to the significance of a single epileptic fit, or of fits returning at long intervals.

NEW YORK, February 11, 1877.

"————:

". . . . This will be handed you by Mr. D——, who has been under my care for some time with epilepsy. At first I attributed his attacks to gastro-intestinal causes, and rectified all bad habits of life and regimen. The disease recurred, and then I put him upon a diet exclusively vegetable and interdicted stimulants. He will tell you how he has fared upon this plan. . . ."

It appears that Mr. D—— was first prescribed for by Dr. X., who is a very eminent practitioner and teacher in New York, after the fourth or fifth attack, in 1876, when the disease had been going on two years and more. No bromide of potassium or sodium had been given until within a very short time previous to the consultation.

Though foreign to my present purpose, I might add that a bromide treatment, consisting in giving only a night dose of from 4. to 5. (60 to 70 grains) of bromide of potassium, has greatly improved the patient.

After the consultation some attacks returned, and I find the following record, July 16, 1878: Mr. D—— returned from Germany a few days ago. He had had no attack since the beginning of August, 1877. Once in Europe had a slight threat of attack, without loss of consciousness. Has led a regular, quiet life, and has taken 4. (60 grains) of potassium bromide every night without omission. General health excellent.

August 4, 1869.—No attack since threat in Germany, twenty months ago. Takes 4. (60 grains) nocte; ordered reduce to 3.5 (50 grains).

October 19th.—Slight attack after an interval of twenty-eight months; fell and bit his tongue. Ordered 4. at bedtime.

December 6th.—No attack.

September, 1880.—In August, under excitement, fell faint, but this attack was not sudden, and he preserved his consciousness. It is now nearly one year since last attack. Takes only 2.75 (41 grains) bromide of potassium at night. He reduced without advice.

October 14th.—Slowly developed attack, without local aura; felt confused before losing consciousness; had spasm, but did not bite tongue. Ordered 4. (60 grains).

January 5, 1881.—No attack. Through erroneous weighing of bromide, has taken only 3. (45 grains) every night. Ordered 4. (60 grains).

March 23d.—No attack.

*Summary.*—Since August, 1877, only two epileptic attacks, and one "threat." This is a period of now (June, 1881) nearly four years.

Has finished the study of law, and is in good physical and mental health.

Case V.—Ira K., aged eight years, seen February, 1877. Was a healthy baby; no convulsions while teething. When two years old fell down a long flight of stairs without apparent injury. Remained well. When four years of age, fell from a horse, cutting the scalp in the occipital region; no loss of consciousness or vomiting.

In six or seven months after this injury, about three and a half years ago, had a first (?) nocturnal epileptic attack. Until lately has had chiefly nocturnal spasms. At first had a few diurnal seizures, and again lately.

Has had much petit-mal, increasing in frequency—of late almost daily. This consists in staring, loss of consciousness, a "hum" or "hem" noise, and sometimes slight jerking of the arms and throwing back of body.

In the last few weeks child has been less bright, and has exhibited a thick articulation.

During long periods of time the child was treated "for worms" and for "disorder of the stomach."

Case VI.—Mary C——, aged sixteen years, seen October, 1879. Born healthy and remained well until sixth year, when, after indulgence in green fruit, she had an attack of very severe convulsions lasting two hours; did not bite her tongue, and there was no consequent paralysis.

This was succeeded by numerous "fainting turns," as the mother calls them. In these the child was unconscious, pale, still, with eyes open and staring. This was petit-mal; the next attack of grand-mal occurred in two years, and afterward the convulsive seizures became frequent, from one or two in one day to one in two or three weeks.

The child had an irregular bromide treatment.

Since has had three types of attack: petit-mal (rarely now), grand-mal, and mixed attacks. One of the last kind was witnessed in my office, and is thus described in the case-book: "Makes complaint of aura, asks for amyl, dilatation of the pupils, pale face, general spasm of semi-tonic kind, muttering, raising of clothes, picking or grasping at chair, incoherent remarks, makes some swallowing movements, does not bite tongue, or froth; return to consciousness."

The aura referred to is almost always felt; it consists in a sensation just above the umbilicus, not ascending, but feeling as of a "soft whirling" or "trembling" sensation in the abdomen; no nausea.

I mention this case because of the apparent etiology. It may have been looked upon as a case of convulsion and vertigo from gastric irritations, and treated accordingly. It certainly appears that a serious bromide treatment was not given during the first two or three years of the disease.

Case VII.—Clara C——, aged five years, seen April, 1880. In February 1879, had a first attack of convulsions, on both sides of the body.

In four weeks experienced a second bilateral attack. In April there recurred an attack in which the spasm was wholly limited to the left side of the body, followed by a number of others, all within a period of twelve hours; no consequent paralysis. In the month of May passed through another *status epilepticus*, in which some of the spasms were on the left side, others bilateral. The bromide of potassium was then steadily given until June, when the mother suspended its use. Had no treatment and remained free from attacks until February, 1880, when a *status epilepticus* of forty-eight hours' duration occurred; most of the spasms were bilateral, and a few involved only the left arm and leg: never bit her tongue. Early in March several attacks in a group. Paralysis has never been observed after attacks, but the child is cross and has headache after them. Most of the attacks have been nocturnal.

Recently one dizzy spell.

After this consultation, a stricter bromide treatment was attempted, but never faithfully carried out by the mother.

*Status epilepticus* occurred in June and September, 1880: many attacks limited to left side. After June attacks, she was almost maniacal for one month.

From January 21st to February, 1881 (when last seen), many seizures, most of them of mixed type, some like petit-mal; calling out, with slight shaking of both arms, staring, and pallor of face. Very unmanageable; semi-maniacal at times in last few weeks.

Family neurotic; maternal grandfather subject to violent neuralgias about the head (specific?); mother of child had convulsions from eight years, for how long a time and of what kind it is impossible to learn.

Careful examinations of the child on two occasions, nearly one year apart, gave no objective symptoms indicating the existence of what one would naturally suspect, viz., a localized lesion (tumor?) in the right hemisphere of the brain.

For many months the physician in charge of the child, and the consulting physician, a man of great eminence, ignored the truly epileptic nature of the child's attacks, asserted their curability, and treated the child carefully for worms and for disorder of the digestive organs.

Case VIII.—Jas. W——, aged twenty-one years, seen October, 1878. Health has been good; denies masturbation, sexual excess, and syphilis. Married fifteen months ago, and has one healthy child.

First epileptic attack occurred three years ago, and the second after an interval of eighteen months.

Since the second attack, has had seizures with increasing frequency: thirteen in the last twelve months. Last seizure occurred yesterday. The attacks have all been nocturnal, occurring at from one to five o'clock A.M., and characterized by severe spasm, biting of the tongue, and passing urine in the bed, and followed by heavy sleep. The next morning has headache.

Did not have treatment until after attacks became frequent.

This case is interesting as showing the real significance of a first epileptiform seizure in a non-syphilitic and non-uræmic adult. The patient had epilepsy just as much after the first attack as he did when the seizures recurred every two or three weeks, and the proper time for successful treatment would have been after the first attack.

CASE IX.—Mary L——, twenty-two years, seen October, 1880. When only three weeks old, had a series of convulsions in the course of one week, followed by cyanosis. Afterward was subject to "screaming spells," in which she threw her body forcibly backward.

From fourth to eighth year no attacks of any kind. When eight or nine years of age had attacks of unconsciousness, in which the eye rolled up, the appearance was statue-like, with a cataleptic state of the limbs. These attacks have occurred daily since; on some days she has had as many as ten or twenty seizures.

Menstruation occurred at thirteen years, but the attacks continued unchanged. Went to school at usual age, but study was abandoned in twelfth year, nominally because of "indigestion," but in reality because patient's mind was feeble; she was to a degree imbecile.

In the last fourteen months has had five attacks of grand-mal; the first in August, 1879, the last one about two weeks ago. In these severe attacks she did not bite her tongue. Has had fewer attacks of petit-mal since these convulsions.

Patient states that she has no aura; as to frequency of petit-mal, she thinks that she may have had as many as one hundred "spells" in one day.

The existence of neuroses in the family is denied. The cause of the second series of epileptic phenomena (from eighth year) appears to have been masturbation, which was practised from the sixth or seventh year until some time after attacks set in. Positively denies self-abuse in the last few years.

This young woman's father was a physician, recently deceased, but the epileptic nature of the disease was not recognized until the convulsive attacks of 1879–80.

CASE X.—Mrs. C. A. R., aged twenty-eight years; seen December, 1878. Was a robust, healthy girl; menstruated in her thirteenth year. In the same year had a very severe attack of typhoid fever, followed by great debility of body and mind. Sexual feeling, which had already been experienced by the patient, disappeared and has never returned. Menses continued nearly regular. At an uncertain time (not long) after the fever, began to have petit-mal of the faintest kind; a mere momentary blurring or loss of consciousness, at frequent, but irregular intervals.

Married at eighteen, and has borne children. Petit-mal has continued occasionally. At about twenty-one had a first convulsion one morning after rising; she frothed at the mouth and bit her tongue. In about two months had a second equally severe attack, and a third one thirteen months later. Then was given bromide and valerian, but irregularly. Four years passed without any convulsions, but she continued having petit-mal at intervals of a few days to three weeks in length.

In 1876 was in Europe travelling, not eating much and using stimulants; had an attack in the summer (grand-mal), and three since. The last one occurred six weeks ago, in the night. Petit-mal occasionally.

In reality this patient was epileptic some twelve years without having a proper diagnosis and treatment.

CASE XI.—Lizzie B., aged twenty-seven years; seen July, 1880. Since the age of eleven or twelve years has had peculiar attacks, consisting of a sensation of something starting in the epigastrium and rolling up to the throat, lasting only a few seconds, not accompanied by tears or other emotional disturbance. Thinks that her consciousness is not lost; calls for hartshorn. At first these attacks occurred once in three or six months; in the last year has had them every two or three weeks. The true nature of these attacks was ignored, though patient was under the constant supervision of a good physician.

Menstruation established at fourteen years (long after first petit-mal); irregular and with pain.

In March, 1880, patient had a regular convulsion, and a slighter one a few days ago. These attacks are described by patient's sister; she herself thinks that they were "long faints." [This shows how much reliance is to be placed on her other statement that she preserves her consciousness in the slighter seizures.]

It was only after the spasm in March that a bromide treatment was instituted. Patient went home in October.

Since January, 1881, quite a number of attacks of grand-mal.

CASE XII.—Dr. ——'s son, aged twenty-two years, November, 1880. Patient not seen; statement made by the father.

From twelfth to sixteenth years had occasional "frightened spells" or "faint spells." No details.

In sixteenth year first recognized epileptic attacks; usually nocturnal; grand-mal at intervals of one or two months. Four attacks in the last four months. In attack spasm begins on the left side of the body, and is most severe on that side; the tongue is bitten, and there is frothing at the mouth.

In 1878–79 had no grand-mal (interval of nearly two years).

At age of six or seven years fell on the ice, striking on his forehead; lost consciousness and vomited.

Masturbation begun in eighth year, probably before petit-mal, which it appears began before the twelfth year, as stated in commencement of the history.

The father, though a practising physician, paid no special attention to the petit-mal, and attributed the first convulsions to late suppers and gastric irritation in general.

(To be continued.)

THE *Arkansaw Doctor* is a monthly medical journal, published in Harrisburg, Ark., and edited by L. J. Collins, M.D. The first number was issued June, 1881, and the editor gives no excuse for its appearance. This is a new and notable departure from "supplying a want long felt," and we wish the youngster success. The present number contains many good things.

## EXTIRPATION OF LOWER END OF RECTUM AND ENTIRE PROSTATE GLAND FOR SCIRRHOUS CARCINOMA.*

By CHARLES K. BRIDDON, M.D.,

NEW YORK.

The following is the history of the case, as taken from the notes of Dr. J. W. Stickler, house surgeon to the Presbyterian Hospital:

A male patient, sixty-nine years of age, entered the Presbyterian Hospital, February 28, 1881.

*Family history of phthisis; none of cancer.* Thirteen years ago patient had necrosis of right femur; had gonorrhœa twice forty years ago; three years ago experienced a sharp, cutting pain near the root of his penis; ten months ago micturition became painful, and caused a burning sensation along the entire course of the urethra; since last June has had griping pain in the rectum and in the territory of the penile portion of the pudic nerve. Fæces were passed without pain. Had retention of urine last December, relieved by hot hip-baths. During the last five months there has been constant difficulty in passing his urine; he has found it necessary to strain before the urine would flow, and after the bladder has been apparently emptied there would escape a few drops of urine. Has had pain in the region of the prostate gland, radiating into his back and down the thighs. During the last two months has been obliged to void his urine about every half-hour during the day, and every hour during the night. Three months ago he discovered an ichorous discharge from his rectum. Defecation has caused him much pain, especially when the fæces have been solid. He has a tearing pain in his rectum now, and lancinating pain in his loins. Fæces are somewhat flattened, and at times entirely covered with a foul, ichorous fluid. Bowels constipated. Pressure in the perineum over the prostate causes pain. Passes his urine every fifteen minutes. Has to strain now more than two months ago; sometimes the urine stops flowing very suddenly, and then, after the passage of some stringy mucus, it begins to flow again.

*Examination of urine.*—Specific gravity, 1008; color, light straw; reaction, alkaline; odor, foul. Amount in twenty-four hours, sixty ounces. Sediment, yellow and stringy.

*Microscopical examination.*—Numerous pus-corpuscles; bladder-epithelium; no casts.

*Chemical examination.*—Albumen, 1 to 6 per volume.

*Examination of urethra.*—An obstruction was found at the meatus, admitting a flexible, olive-pointed bougie No. 3. Another obstruction was found at the bulbo-membranous portion, admitting a No. 1 bougie.

*Rectum.*—An oval ulcer was found on the antero-lateral wall, immediately within the sphincter ani. It was about two inches in length, craterous in its conformation, and of almost cartilaginous consistence. The deepest portion appeared to be continuous with the prostate, and apparently was incorporated with the gland. The patient was told the result of the examination, and that it might be necessary at the operation to excise a portion or all of the gland, and that in such an event he would be obliged to pass his urine through the perineal opening.

*Operation,* March 11th, 3 P.M., by Dr. Briddon.—Patient etherized. An attempt was made just previous to the operation to pass an instrument into the bladder, the meatus having been divided, but the effort was unsuccessful. An incision was made from a point over the tip of the coccyx to the posterior extremity of the anus, thence around the margin of that aperture and along the medium raphe to the base of the scrotum.

These incisions, carried through the superficial and deep fascias, divided the ano-perineal region into lateral halves, which were retracted by means of strong silk. The levator ani was then divided on either side, and an attempt was made to separate the lower portion of the rectum from a more solid mass that appeared to be continuous with it, and which projected upward and forward in the direction of the pubic arch. It required long and powerful efforts to separate this portion from its deep connections, and it was accomplished principally by the fingers, aided occasionally by the curved scissors. In the concluding part of the operation the finger entered the bladder, and it was supposed that the detached mass was formed out of a part of the prostate. By further traction the whole mass was drawn down outside the external wound. The gut was divided in sections, each vessel being tied as it spouted, and no further difficulty was encountered. There was but little hemorrhage, considering the magnitude of the operation.

Retraction of the flaps permitted an accurate inspection of the large chasm exposed. The roof was formed out of that portion of the visceral layer of the pelvic fascia that lines the upper surface of the levator. Centrally was seen the small circular opening of the neck of the bladder, bounded on either side by the seminal vesicles; these bodies had a suspicious feeling of induration that led those of my colleagues who examined them to express the opinion that they also were invaded by the same deposit that existed in the rectum; there was no discoverable rent in the peritoneum, and no oozing of blood. The parts were left entirely open, with directions for frequent irrigation with a disinfectant. On examining the parts removed, it was found that the strong efforts which had been found necessary to draw the parts down, had separated the lower end of the rectum from the solid mass referred to in the details of the operation; that the rectal portion of the tumor was considerably broken up by the manipulations, and that the solid portion was formed out of the prostate gland enlarged to about the dimensions of a billiard-ball.

March 11th, 8 P.M.—Patient recovered well from the effects of the ether and operation. Was conscious and asked for things ten minutes after being taken to the ward.

Ordered ℞. Sol. morph. sulph., U. S. P., ʒ ij.; spts. vini. gallici, aqua, āā ℥ ij. M. Sig.—ʒ every half-hour; also milk ʒ j. every half-hour.

March 11th, 10 P.M.—Pulse, 140; temperature, 98° F. 11 P.M.—pulse, 120; temperature, 98½° F. 11.30 P.M.—pulse, 109; temperature, 98¼° F. Respiration regular and deep; but little oozing; no pain when quiet.

March 12th, 9.30 A.M.—Temperature, 98½° F.; pulse, 104, and quite strong. Respirations normal. No hemorrhage. Slight pain in hypochondriac region. No abdominal distention or tenderness. Passes urine freely through wound. A solution of carbolic acid 1 to 40 injected into the wound three times a day. Takes two teaspoonfuls of brandy with an equal quantity of water every half-hour. Takes milk and beef-tea, two ounces every two hours.

* Paper read before the New York Surgical Society.

Hot bottles kept in the bed, next the patient, during the day.

March 12th, 8 P.M.—Pulse, 115, not very strong. Respirations somewhat irregular. Ordered brandy, ʒ j. every fifteen minutes till further orders. 11 P.M.: pulse 128 and very weak. Respirations, twelve per minute and very shallow; hands and arms cold, feet and legs warm. Slight pulmonary œdema. Applied six dry cups to chest, gave brandy ʒ ij. every half-hour.

Dressings changed; no hemorrhage; ordered milk ʒ ij. every half-hour. 3 A.M.—Patient says he feels very comfortable.

March 13th, 8 A.M.—Pulse 130, very compressible; Temperature, 98½° F. Respiration, 14; patient very restless and drowsy; pulmonary œdema more marked. Gave brandy, ♏ xx. hypodermically, followed by ʒ ij. per ounce of milk and beef-tea every fifteen minutes. 9.30 A.M.—Temperature, 100½° F. Pulse 140 and very weak. Respiration, 12. Gave tr. digitalis and brandy, āā ♏ x. hypodermically, repeated in twenty minutes. 9.40.—Pulse somewhat stronger, but just as rapid. Gave brandy per orem, ʒ j. every twenty or thirty minutes.

March 13th, 10 A.M.—Tr. digitalis and brandy, āā ♏ x. hypodermically. 10.15 A.M.—Pulse, 138; respiration, 12; temperature, 99½° F. 10.40 A.M.—Tr. digitalis and brandy, āā ♏ x. hypodermically. 11 A.M.—Pulse, 128 and stronger; respiration, 14; answers questions imperfectly. Has considerable dyspnœa. Abdomen not sensitive or tympanitic. No hemorrhage. 12.30 P.M.—Pulse, 130; respiration, 11 and sighing. Temperature, 98½°; will not answer questions. 2 P.M.—Pulse, 153, and very weak. Cold, clammy hands, warm feet. 3.25.—Pulse, 160; respiration, 11, jerking. Hands and arms cold. Comatose. Died.

Necropsy, nineteen hours after death, by Dr. William H. Porter, Curator of the Hospital. Rigor mortis well marked. Body emaciated.

*Pericardium and heart.*—One drachm of fluid in the pericardial sac. One milk-patch on the anterior surface of the right ventricle. Slight adhesions round the base of the heart to the adjacent parietal pericardium. There was a small amount of fluid blood in the left cavities, with considerable coagulum in the right cavities. The aorta was extensively atheromatous. Weight of heart twelve and one-half ounces. Valves free and sufficient.

*Pleura and lungs.*—The left organ was free in the pleural sac. Portions of this lung were collapsed (apneumatosis). The right lung was adherent to the chest-wall by old fibrous bands, under which the lung was consolidated and indurated—so-called fibrous phthisis. There was some apneumatosis of the upper lobe of this lung, with hypostatic congestion and œdema of the most dependent portions of the inferior lobe. The left lung weighed eleven ounces, the right thirty ounces.

*Abdominal cavity.*—*Spleen* soft and flabby; weight, four ounces. The *liver* appeared normal; weight of organ, forty-eight ounces.

The pelvic cavity and genito-urinary tract presented many points of interest. No evidence of peritonitis. The contents of the pelvic cavity were removed by passing a knife close to the bone and cutting the pelvic contents from its bony attachment. The kidneys and ureters were removed attached to the bladder.

The anal orifice presented, instead of the normal appearance, a large, elliptical ulcerating wound four inches long, in the antero-posterior diameter. This opening communicated with a large, irregular cavity left after removal of a part of the rectum new-growth and the prostate gland. The superior limit of the cavity was bounded by the cut end of the rectum part of the neoplasm, the neck of the bladder to the right, and posteriorly by the pouch of Douglas, but to the left of the median line, between the bladder and rectum, there was an opening into the peritoneal cavity, leaving a communication between the cavity in the pelvic fossa and the peritoneal sac. Behind this opening, to the left of the median line, there was a triangular mass of the neoplasm left.

*Microscopical examination* of this indurated mass gave evidence of *scirrhous carcinoma*, but the fibrous elements made up the mass of the neoplasm with non-striated muscle fibres, widely interspersed, with only an occasional alveolar space filled with epithelial elements.

The bladder was contracted and hard; external circumference six inches; the walls one-half inch thick; the internal diameter from neck to fundus one and one-half inch. It felt, when first removed, of stony hardness, as if infiltrated by the new-growth, but close examination showed it to be from any change except those of chronic cystitis with atrophy.

The seminal vesicles contained a few round masses of a calcareous nature.

The ureters were distended with purulent fluid, and at the upper limit of the left ureter there were two valve-like projections into the lumen, which rendered the passage of a probe into it from the pelvis of the kidney extremely difficult. The right ureter was also distended with purulent fluid.

The pelves of both kidneys were distended with a thick, purulent fluid, and both glands were studded with many small abscesses, varying in size from that of a millet-seed to a large pea, or even larger.

*Microscopical examination* of the kidneys showed that some portions were nearly normal, the only noticeable change being a slight, cloudy swelling of the epithelia; in other portions there were marked collections of pus-corpuscles among the tubules, without any limited wall, thus forming minute diffuse abscesses; in other portions small cavities were formed, evidently due to the melting down of the tubules, filled with pus-corpuscles, so that a number of the tubules were entirely divided, destroyed, and replaced by pus. These cavities containing pus were surrounded by a zone of pus-corpuscles diffused among the renal elements.

REPORT UPON THE MASS REMOVED AT OPERATION.

This mass was composed of the anal orifice and rectum, prostate gland, and a neoplasm which lay to the left and between the prostate and rectum. The prostate gland measured six inches in its greatest circumference. The urethra passed through the anterior lobe about one-third nearer the anterior than the posterior surface. Connecting with this anterior lobe, and pointing downward and backward, were three smaller lobes representing a middle, right, and left lateral lobe.

The anal orifice appeared nearly normal, but one-half inch above the orifice there was a ragged edged ulcer, one inch in diameter and one-half inch deep. This ulcerating cavity, surrounded with an indurated mass (the new-growth), extended forward and to the left of the median line, and appeared to be continuous with the substance of the left half of the prostate gland. The remaining portion of the rectum was normal. The upper limit of the growth, which had some of the surrounding

tissue attached, was very irregular in outline. Upon the outer border of this neoplasm there were several rounded nodules—probably infiltrated lymphatic glands; otherwise, the surrounding glands of the pelvis were not involved.

*Microscopical examination.*—The neoplasm close to the ulcer showed marked evidence of carcinoma of the scirrhous variety, in the shape of wide bands of dense fibrillated connective tissue, forming alveolar spaces, irregularly packed with large, nucleated, epithelial corpuscles. The fibrous element was the predominating feature, with occasional non-striated muscle-fibres. Although the new-growth appeared to have extended into the prostate gland, careful microscopical examination failed to detect any evidence of carcinomatous disease in the prostate. The neoplasm appeared to be separated from the gland by a layer of fibrous tissue, probably the capsule of the gland.

*Remarks.*—In this case the prostatic obstruction was the most prominent feature, and it was evident that it would soon culminate in retention. A careful consideration appeared to warrant an operation that would anticipate that condition, and, as it appeared that the prostatic tumor was an outgrowth of the one in the walls of the rectum, it was judged best to attack both at once. In the operation it was found impossible to isolate the one from the other. A very careful inspection of the operation-wound was made after the removal of the diseased mass, and no wound of the serous sac was found; and that which was found at the autopsy, certainly had no influence on the result.

The mode of death was such as is found in cases of blood-poisoning and the advanced stage of surgical kidney. Pyelo-nephrosis will be recognized as sufficient cause for death, as is well known. Microscopic and chemical tests of the urine failed to give evidence of such condition. In repeated examinations no elements were found that threw any light on the condition of those organs.

## ON THE INDICATIONS FOR THE TREATMENT OF NASO-PHARYNGEAL CATARRH.

By ANDREW H. SMITH, M.D.,
NEW YORK.

In the discussion of the much-discussed subject of naso-pharyngeal catarrh, there seems to me to have been a lack of precise statement of the indications for treatment. Different procedures have been recommended with the general and vague object of suppressing the discharge, without a definite statement of the manner in which they are expected to contribute to that result. A step in advance will have been made when we have an exact idea of what is to be done, so that we may select the best method of doing it.

The indications for treatment, it appears to me, may be concisely formulated as follows:

*First.*—Keep the parts clean.

*Second.*—Remove all sources of irritation resulting from occupation, residence, climate, etc.

*Third.*—Enforce attention to hygiene and to the general health.

*Fourth.*—If there is obstruction to nasal breathing, remove the obstruction.

*Fifth.*—If there is ulceration, use strictly local applications, with a view to healing.

*Sixth.*—If there is hypertrophied glandular stricture yielding excessive secretion, remove the hypertrophied portion.

*Seventh.*—If, after the above indications have been fulfilled, there is still hyperæmia, use mild astringents and sedatives, and such constitutional treatment as is thought to be indicated.

*Eighth.*—Cease treatment the moment there is no longer a definite indication for it.

As to the first three indications, the reason for them is too obvious to require comment.

The fourth indication, relating to obstruction to nasal breathing, is of very great importance, chiefly, as I think, for a reason which I believe has not heretofore been brought forward. I refer to the effect of nasal stenosis in causing hyperæmia of the membrane behind it, owing to the rarefaction of the air with each inspiration. The influence of this diminished air-pressure behind the obstruction upon the development of the bony and cartilaginous structures of the nose in early life has lately been insisted upon by Dr. Roe, but he has overlooked the fact that all the tissues subjected to the action of this partial vacuum must suffer a proportionate congestion as certainly as the skin under a cupping-glass. From congestion to hypersecretion is but a single step, and here I think we have a key, not only to the persistence of the discharge in many cases, but to the prompt abatement of it which often follows relief of the stenosis.

The fifth indication, relating to direct applications to ulcerated points when practicable, should discourage the use of strong irritating solutions, sprays, or powders to the whole mucous surface, in order to heal ulcerations of a limited portion of it.

The sixth indication, as to hypertrophied glandular tissue, requires a discrimination between that which produces hypersecretion and that which does not. The former should always be removed, the latter never unless it obstructs nasal breathing, which would bring it under the fourth head.

If the preceding indications have been fulfilled, the one relating to the use of astringents and sedatives will seldom be present for any lengthened period. Still their use for a limited time will often hasten the return of the vessels to their normal calibre. As to the value of constitutional treatment in non-specific cases, nothing is as yet definitely settled.

The last indication is far from being the least important. Continuing random local treatment may perpetuate the disease indefinitely, and when the cure has reached a point at which we no longer know just what we expect our remedies to do, it is time to lay them aside and give nature an opportunity to complete the work.

Night-Calls and a Jealous Wife.—A physician is suing, at Shelbyville, Ind., for a divorce from his wife, on the ground of cruel and inhuman treatment. Having a large practice, he is frequently called out at night. His wife, being jealous, refused to believe that all his absences from home were professional, and demanded that he should stay in of nights. He said his patients would not stand neglect. Then she adopted the plan of taking poison whenever he had a night-call, thus compelling him to remain and doctor her. She swallowed a deadly drug in this way several times, and her life was saved with difficulty. The husband claims that such conduct is a just cause for divorce.

## A CASE OF STRICTURE OF THE URETHRA,

### With Polypi of Membranous Portion—Removal of Polypi by the Polypi Guillotine.

By HERMAN G. KLOTZ, M.D.,

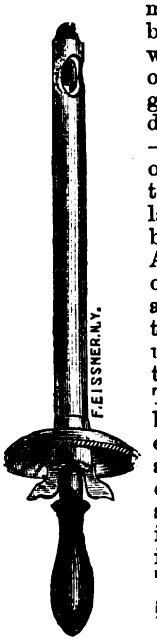
ATTENDING SURGEON, NEW YORK GERMAN HOSPITAL, DEPARTMENT FOR SKIN AND VENEREAL DISEASES.

Henry P——, aged twenty-six years, a grocer, a native of Germany, came to my office last August. He had contracted gonorrhœa, for the first time in his life, about three years ago; since that time, the discharge from the urethra has continued more or less until now. He is in good health otherwise; never had chancre or syphilis.

On examination, a stricture was found about thirteen centimetres from the meatus externus, an olive-pointed bougie, No. 14 Charrière, only being passed, steel bougies of the same calibre causing slight hemorrhage. After a few weeks of gradual dilatation by bougies, steel bougie No. 27 Charrière could be passed easily to the bladder; smaller olive-pointed bougies, however, were always arrested near the seat of the stricture. At the same time the discharge showed very little abatement. To ascertain the cause, I resorted to the endoscope. After several fruitless examinations, I discovered the presence of polypoid growths at a distance of thirteen centimetres from the meatus. Application of caustics (nitrate of silver, liquor ferri, etc.) having proved unsuccessful for the destruction of the polypi, I had to think of other means for their removal. Circumstances prevented the patient from continuing the treatment until February of the present year. Having mentioned the case at the January meeting of German physicians, Dr. F. Zinsser kindly offered me his assistance, and the use of his more perfect endoscopic instruments. With his aid, the polypi were found to be distributed quite numerously over the length of about one centimetre of the membranous urethra, and, during several sittings in February and March, about a dozen of them were removed, varying in size from a canary-seed to a pea. Even now, after having been kept in alcohol for several months, the largest piece measures four millimetres at the base, and six millimetres in height. After that, no more polypoid growths could be detected, but the affected part of the urethra showed the mucous membrane considerably swollen, and of a velvety appearance; at some places small excrescences, which bled very readily, seemed to indicate the former seat of the polypi. Under the application of caustics and astringents (nitrate of silver in substance, or in twenty per cent. solution, tincture of iodine, etc.), the mucous membrane is returning slowly to its normal condition, the seat of the former stricture being recognized by the scar-like, perfectly white appearance of the mucous membrane of the upper wall of the urethra, immediately in front of the seat of the polypi.

The removal of these growths was effected partly by a wire snare, which, except as to size, is very similar to Blake's wire snare for the removal of polypi of the ear. At a short distance from the meatus externus it works quite well, but greater difficulty is experienced at a distance of twelve and thirteen centimetres. On account of the soft walls of the urethra caving in immediately on withdrawal of the endoscopic tube, there never is a clear space wherein to manipulate the snare, so as to bring it around the base of the growth. To overcome this difficulty, I had a new instrument, the polypi guillotine, constructed by Mr. F. Eissner, of New York, which is essentially a modification of the "polypenkneipe" described by Grünfeld ("Die Endoskopie der Harnröhre und Blase," Deutsche Chirurgie, No. 51. 1881).

It consists of two concentric metallic endoscopic tubes, the calibre of which is 25 and 22 respectively of Charrière's scale. The ocular ends bear differently shaped handles, which allow the revolving of the inner tube without obstructing the view. Beginning four millimetres from the visceral end, both tubes have removed from their walls an elliptical-shaped segment, of somewhat less than ninety degrees, the conjugate and transverse diameter being 8 and 6 respectively —6 and 5 millimetres. The edge of the elliptical opening of the inner tube, the visceral extremity of the latter for about four centimetres, being made of steel, is ground sharp. After having closed the elliptical openings, by turning the inner tube as indicated by marks on the handles, the instrument is introduced into the urethra, by means of a common obturator, beyond the seat of the polypi. Then the position of the instrument being ascertained by inspection, the elliptical apertures of the two tubes are made to correspond. On withdrawing the instrument, in slow, screw-like manner, the polypi come in sight through the elliptical opening, as soon as their seat is reached. They are easily distinguished by their generally somewhat lighter color and by their shape. Sometimes they make their appearance quite suddenly, falling into the tube as into a trap. By revolving the inner tube to its former position, its sharp edge cuts through the base of the polypus, thereby separating it from its seat. On withdrawal of the whole instrument, the polypus is safely removed from the urethra. Pain is very inconsiderable; bleeding seldom requires any particular applications. After a few days the operation can be repeated.




I have taken great pains to ascertain that no part of the healthy mucous membrane can be cut off by this instrument. In good light, especially in sunlight, which I prefer for endoscopic purposes to any artificial one, when it can be had, I could see the mucous membrane bulge in considerably, but give way before the revolving inner tube, without ever being caught or injured by the sharp edges. Some difficulty is experienced at first, by seeing parts of the interior surface of the urethra, by the elliptical opening as well as by the visceral end of the tube, which can be distinguished only in very good light. To obviate this, Dr. Zinsser has suggested a closure of the instrument at the visceral end, thereby giving it the appearance of the point of a catheter; this would at the same time do away with the obturator. But to allow thorough cleaning of the instrument it would be necessary to have the visceral tip made removable. Finally, using the outer tube alone as an endoscopic tube, polypi could be isolated completely from their surroundings, thus considerably facilitating the application of a wire snare around their base. It might also be used for isolation and safe cauterization of otherwise diseased circumscribed parts of the mucous membrane.

222 East Nineteenth Street, New York.

# MILK.*

By E. F. BRUSH, M.D.,

MOUNT VERNON, N. Y.

The position that milk occupies in scientific works at the present day is very unsatisfactory to the busy practitioner. Almost every author gives a different analysis, and many of the phenomena remain still unexplained. The lactometer seems to be merely a source of dispute, and is in no way accurately scientific. The latest work on "Milk Analysis"—that of Wanklyn—lacks precision in detail; he leaves out albumen in his analysis—a very important constituent to be considered—and he masses together all the salts as milk sugar. This seems to me an unsatisfactory method, for it is a fact regarding these substances, that on the proportion existing between them and the caseine the quality of the milk depends. I have previously stated in the *New York Medical Journal* the fact that, as caseine decreases, the milk, sugar and the albumen increase, and *vice versa*. By ascertaining these we can determine the wholesomeness of any given specimen of milk.

I am engaged in simplifying the analysis of milk. The process I adopt is as follows: I have a water-bath arranged with three funnels and one flask. In the first funnel I place milk, having previously coagulated the caseine with chloride of sodium; I boil the filtrate and throw it on the second funnel to obtain the albumen. The second filtrate I precipitate with Fehling's solution, to ascertain the amount of sugar. From the residue in the first filter I wash the fat with ether. This ethereal solution I place in the flask. I wash the caseine with pure water, thus removing the salt. I then start my water-bath, which dries the three filters and expels the ether, leaving the fat. When these are dry, all that is necessary is to weigh the results.

As the other salts contained in specimens of milk are found to occur in only very small proportions, and, as their significance thus far is of slight importance, I have not attempted to ascertain them with strict accuracy.

In testing with the lactometer, we are led astray both by the presence of water and by an excess of cream. I obviate these difficulties by first coagulating the caseine, and then taking the specific gravity of the filtrate. This, as you can see, removes both the sources of error. There is, I think, only one possible source of error in taking the specific gravity this way—that is, the addition of salt may keep up the specific gravity of the serum. This can be eliminated, if one suspects its existence, by precipitating the chloride with nitrate of silver. Of course a considerable amount of labor is required to obtain a standard. I have not done so. Having dealt in milk for years, I have relied on this test, and as our ingenious milkmen have not discovered it, I have not thought it necessary to guard against a fraud which might be perpetrated if the test were known.

So much, then, on the modes of testing. But, in examining milk, we must consider another point, that is the position it occupies as a producer and distributor of disease. Compared with this acknowledged fact, simple dilution with water is of slight importance. Diseases may be conveyed by milk taken from an animal suffering from disease, or by milk contaminated in the dairy, or by contact with diseased or infected persons. There is no definite law forbidding the sale of milk from diseased animals. On reading the last Report of the Department of Agriculture, I find a statement made by a dairyman on Long Island, in which he declares to the commissioners that for twenty years he has had cases of pleuropneumonia in his herd. In this disease the flow of milk is not usually entirely suspended, and it is only lessened slightly during the first few days of active fever. When the flow is suspended, it is during the extreme heat of summer, when the disease attains its utmost violence—that is, when the animal is about to die. There can be no doubt that the milk of a cow suffering from a disease of this character must be poisonous. On analysis of milk thus diseased, I have discovered an increased amount of albumen as the only difference. Garget, an inflammatory condition of the internal substance of the udder, is another vaccine disease which causes unwholesomeness in milk. In cases of foot-and mouth disease—a disease producing in the cow aphtha, diarrhœa, and enlarged glands—Dr. Joseph Weil writes that the "raw milk produces a feverishness, swelling of the tonsils and submaxillary glands, and pemphigenous eruptions on the lips and tongue." I need not, even if time permitted, enumerate all the other diseases which infect milk. But this dissemination of disease by diseased milk is a fact which we medical men ought to recognize. We ought to bestir ourselves to procure legislation defining the duties of milk-producers as regards the health of their animals. At present the whole law seems to have been made for the pecuniary protection of corporations and herdsmen. In fact, half of the laws are enacted to protect butter and cheese factories from skim-milk and oleomargarine. It is significant that the first law passed in this State respecting milk was passed, not to prevent the Orange County Association from selling diseased milk, or for protecting the thousands of children whose food it supplies, but to prevent their agents from defrauding them. The whole tenor of the law is in the same direction. There is indeed a law saying unhealthy milk must not be sold, but the definition of "unhealthy" as given in the law is "milk from cattle feeding on distillery swill, or on any substance in a state of putrefaction." The factories are further protected by the prohibition of the sale of tainted milk, or milk kept in dirty vessels. They are also protected by a law prohibiting the sale of skim-milk. This insane law is the only definite one, except the one against the addition of water. We all know that if the same energy had been directed by the New York Board of Health against diseased milk, which has been directed against watered milk, the lives of thousands of children would have been saved. From what I have seen of the dairies in Westchester County, and from what I have learned by conversations with dairymen, I am convinced that the greatest cause of disease among infants in New York City actually arises from the use of diseased milk, and the mixture of colostrum with sound milk. This is a most serious and important subject, and utterly neglected by the law. Calves taken immediately from their mothers, "bob-veal," is denounced because it produces disease in his majesty the adult citizen. But no law prohibits the wholesale administration of colostrum to the luckless infant. In none of the numerous works that I have consulted, either scientific or intended for farmers, have I found any allusion to this evil. Thus, even the conscientious man has no warning and no guide. Many of the milkmen informed

* An essay read before the Medical Society of the County of Westchester, at the Annual Meeting, held at White Plains, Tuesday, June 21, 1881.

me that the third milking after calving was considered fit to mix with other milk. In the course of conversation I casually inquired what effect the third milking would have on a calf three months old. The farmer innocently replied, "It would probably give him the scours." This disease in the calf corresponds to cholera infantum. Last summer I attended a child suffering from cholera infantum. I proposed to give it whey, and to procure it I took some of the milk on which the child had been fed, and attempted to coagulate it with rennet. I failed utterly. I threw the specimen away and sent to the same place for some more milk. The same result ensued. I then left out the rennet, and boiled the milk. It coagulated on boiling. As this is what takes place in colostrum, the cause of the attack was plain. By changing the diet the child recovered. This would be an easy test if it were not for the fact that the colostrum is mixed in most cases with a large proportion of milk, and hence only negative results would be attained. In regard to the time when milk is fit to use after calving, I am undecided, as I am still engaged in the investigation. If I succeed in interesting medical men to procure legislation on this subject, I shall be able to give definite and scientific rules. I will say here that, according to Lehman, colostrum corpuscles remain till the third or fourth day, and occasionally to the twentieth day, and as a general rule returns when any disease supervenes after delivery, or in case the mother is attacked by any acute affection. Colostrum becomes acid more rapidly than milk, and contains less sugar. Let me beg of you not to forget this matter: we owe it to the community to protect their children. I would even go so far as to desire that every dealer in milk be compelled to take out a license, and that in every death-certificate of an infant the name of the milkman supplying it with milk be inserted. The officials of the Board of Health would thus be able to see if the same name occurred repeatedly, and to take steps to stop his sale of poisonous milk. I hope to see the day when the matter will receive due scientific and legislative attention.

There are of course other items of great importance relating to the milk of the cow. As we who use the milk belong in the animal kingdom to the non-ruminants, we have to study cows' milk as designed for the stomach of ruminants. If it were possible for us to feed children on the milk of non-ruminant animals, as the human being or ass, there would be much less difficulty attending the artificial feeding of children. Looking at it in this light, there is no doubt we could mend the matter considerably. Calves always regurgitate and chew the milk before it enters into the digesting stomach. Some people argue that milk, when drawn from the gland and kept, loses at once its vital principle, and thus seek to account for its indigestibility. To my mind this is proved to be false reasoning by the fact that the most successful stock-raisers do not allow the calves to suck. This is not from economy. I can cite a case in point. A farmer with a herd of pedigree stock, in which he took a great pride, allowed his calves to suck. They became so fat as to excite the admiration of all beholders. When the weather became hot they all died. The mode of death was peculiar. They gave a strange cry, which attracted the attention of the farm-hands, reeled round, and, before the men reached them, were dead. One after another they all thus perished. Since then the breeder has fed his calves from a trough with about half the milk from their mothers, and none have died in this manner. These breeders, I need scarcely add, are very particular about the colostrum.

From these facts I have reached the conclusion that, to feed a child properly on cows' milk, we must imitate the first process of the calf, by coagulating the caseine either with rennet or dilute hydrochloric acid, and beating up the caseine very fine. I have kept two babies, now eight months old, on milk with the caseine thus broken up, with the most satisfactory results. Even milk that is sour, if the caseine is broken up before it is introduced into the stomach, not only will not disturb it, but is more wholesome than fresh milk with the caseine unbroken. After a thunderstorm, when nearly all the milk in the community is soured, we all know how many children at once fall sick. This, I candidly tell you, can be avoided if you will coagulate the caseine before giving the milk. This phenomenon of milk-souring and sometimes coagulating immediately after the electric disturbance, has not hitherto been satisfactorily explained. I was led to the solution of the problem while engaged in the manufacture of kumyss. Having the bottles closely packed together in a large pile, I found that when one of them burst, the contents of the bottles in the immediate neighborhood always were coagulated. It seems to me, therefore, that this phenomenon is susceptible of the same explanation as the fact that water which is quiescent at a temperature much below the freezing point, will not freeze till it is jarred, and that bodies rise from the bottoms of ponds and rivers when cannon are fired. It is due to molecular change produced by atmospheric concussion, just as rain is precipitated after a battle.

In regard to some of the popular modes of feeding children artificially, I will here explain a few of them. We will first consider boiled milk. By this procedure we of course lower its nutritive value by coagulating the albumen, thus rendering it insoluble. Boiling kills the lactic germs, thus delaying the development of lactic acid. It emphatically benefits milk polluted with colostrum, and probably the coagulation of the caseine in the stomach is less rapid. From these facts it seems to be proved that, if we do not coagulate the caseine as already mentioned before introducing the milk into the stomach, or if we have milk of unknown purity, boiling is undoubtedly beneficial. The addition of lime-water or soda—a favorite method—is beneficial from the fact that coagulation takes place more slowly and that we are not apt to have the large, leathery coagulum. Last summer, while talking to an eminent practitioner on the subject of feeding infants by artificial means, he stated that one of his children was not doing well with ordinary dilute milk with sugar, and had all the symptoms of defective nutrition. He stopped the milk and gave cream diluted with water. From the very first the child improved and was kept on cream till weaned. In commenting on the case the doctor expressed some surprise, as he considered that cream contained nothing much but fats. In this he was mistaken, as the following analysis will show. I removed eight ounces of cream and carefully avoided any removal of milk with it. From this cream I removed twenty nine and one-half drachms of butter, one hundred and thirty-nine and one-half grains of caseine, eighteen grains of soluble albumen by coagulation through heat, and thirty-eight grains of sugar. The analysis proves that in buttermilk we have a wonderfully nutritive fluid. Even after the caseine is removed, the amount of nu-

trition in the whey of buttermilk is quite large. This fact is enforced by the experience of the Orkney Island fishermen. They precipitate the caseine from buttermilk by boiling water immediately after churning, and place the whey in small kegs. This they take with them on their voyage, and subsist on it for several days without other food or drink.

I do not profess to have exhausted in any way the theme I have taken for this paper. There are several other points to which I would like to allude if time permitted. Before I close, I will, however, briefly call your attention to another point, that is, the removal of the ovaries from milk cows by the operation known as spaying. If this operation were more generally adopted by the owners of dairy cows, we would avoid many of the influences which affect the value of milk. If, after a cow has calved and the flow of milk has attained its normal condition, this operation were performed, we would avoid those conditions in the cow which have a deleterious effect on the milk, such as the recurrence of the sexual desire, pregnancy, and the like. A cow once spayed will continue to give milk during the remainder of her life.

# Reports of Hospitals.

## NEW YORK HOSPITAL, N. Y.

### Service of Dr. H. B. SANDS.

#### LATERAL LITHOTOMY.—THE THIRD OPERATION FOR STONE PERFORMED UPON A CHILD SIX YEARS OF AGE.

This operation, performed December 4, 1880, was interesting because it was the third one to which the patient, a boy of six years, had been subjected for the removal of vesical calculus. It is reported that at the age of eight months he showed signs of stone in the bladder. He was in the habit of pulling at his prepuce, and suffered from incontinence of urine. On the 17th of July, 1877, median lithotomy was performed, the stone requiring crushing before it could be removed. Six months after this, symptoms of calculus again reappeared, and in October, 1878, another large stone was removed, dark-colored and smooth, according to the father's statements. For a year following this relief was complete, but then signs of stone showed themselves once more. The patient had a history of occasional attacks of cystitis. Diagnosis in this instance was verified by touching the stone with the sound in the bladder and the finger in the rectum.

#### CARBOLIC ACID POISONING AFTER AMPUTATION OF THE THIGH.

This patient had been subjected to the operation of amputation of the thigh for ununited fracture of the femur. For five days after the operation the urine was green in color, an effect due to the absorption by the wound of carbolic acid, used in accordance with the antiseptic method of operating.

#### DEATH RESULTING FROM EXTERNAL URETHROTOMY.

A death was reported resulting from an operation performed October 16th, for the relief of an urethral stricture in an old man. The patient came to the hospital with a fistula in the perineum, which fistula had contracted, gave trouble, and rendered an operation necessary for his relief. The injury occurred forty years prior to his admission, and was the result of an accident, the man falling from aloft and striking his perineum on a plank. The continuity of the urethra was destroyed. He was operated upon by the distinguished Sir Benjamin Brodie, but without permanent success. Last summer the opening in the perineum contracted, and he was forced to use a catheter. After a while this mode of relief failed. He was sixty years of age, a fact which prompted the operator not to subject him to the operation of perineal section proper, but merely to pass a tunnelled sound into the fistula and enlarge the latter sufficiently. The incision was minute, not important in situation, and there was every reason to believe that the operation would be successful. Shortly after the patient had a simple nervous chill. The orifice was allowed to remain undilated until October 20th, on which day several instruments were passed through the orifice into the canal to the extent of half an inch. There was then no reason to believe that anything serious would happen. On Thursday, October 21st, at five in the afternoon, the patient was in a state of collapse. The abdomen was distended, and a catheter passed into the bladder revealed the fact that that viscus was nearly empty. The patient had not passed water since ten o'clock of the preceding night, and it was therefore inferred that he had suppression of urine. He was given a hot-air bath, stimulants and digitaline were administered, and cups were applied over the kidneys. These procedures proved unavailing, and he expired half an hour later. He died of syncope, and the autopsy failed to discover any other cause of death than fatty degeneration of the heart. Nothing was found in the abdomen and nothing in the pelvis to explain it. Dr. Sands referred to this patient in order to explain that very trifling operations upon the urethra may be followed by disastrous results. He also mentioned another case, which is interesting in this connection. In 1879 he was consulted by a gentleman from Curaçoa for a deep-seated and close stricture of the urethra, upon which he had operated eight or nine years before by dilatation. The gentleman was then told to use a catheter, which he, however, neglected to do. He tried several operations, and came back to Dr. Sands with letters from his surgeons, warning any man against repeating them, on account of the disastrous results liable to follow in his particular case. Dr. Sands finally decided to perform an operation, which he did by inserting the urethrotome, and dividing the stricture without difficulty. For twenty-four hours the patient seemed to do well, but then serious symptoms appeared. He had a chill, and ceased to pass urine, delirium came on, the pulse was rapid and feeble, and for three days the man's life was in danger. He finally recovered, though his constitution was much shattered.

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### Service of Dr. R. F. WEIR.

#### URETHRAL FEVER—THE USE OF ACONITE AND MORPHINE.

A case of urethral fever was alluded to by Dr. Weir. It was of that form which occurs when the urine passes over the cut surface, for the first time, rarely before. In such instances the temperature may rise to 104°, 105°, or 106°, rapidly falling the next day. To prevent this rise, aconite and morphia are to be given, in doses of three to five minims of the former to one-eighth of a grain of the latter. This is to be repeated after a lapse of two hours, and, if necessary, a half dose may be given at the end of two hours

more. This is done because the fever is nervous and due to irritation communicated from the wound to the nervous plexuses supplying the kidney. Dr. Weir's experience with quinine in these cases has been rather negative.

ESMARCH'S OPERATION FOR CONTRACTION OF THE JAW.

The patient was a woman who several years previous had fallen, striking upon the chin and left side of the face, but not breaking the skin. As a result of this accident extensive inflammation took place, and finally cicatricial contraction interfered seriously with the separation of the jaws, necessitating the removal of several incisor teeth in order that she might be able to take thick food. In 1878 the woman entered a hospital, where she was subjected to a variety of treatment, such as incisions into the cicatrix, and the separation of the jaws by means of forceps. Only temporary relief was, however, afforded. Becoming discouraged, the patient entered another hospital, where the cheek was split, a procedure which was followed by a reforming of the cicatrix. Dr. Weir proposed to make a false joint and to take away enough of the lower jaw to secure non-union. Accordingly an inch and a half of bone was removed from the posterior part of the horizontal portion. The operator deemed it best to leave no cicatricial bands, as they would confine the joint. After the operation, it was possible to introduce two fingers into the patient's mouth. The residual contraction was due to disuse of the normal parts. The further progress of the case was favorable. Three weeks later the patient could open and shut her mouth, and exercise a firm grip upon a piece of rubber placed between her teeth. She was rather weak, owing to the fact that she had been confined to a diet of milk and slops for so long a time. Dr. Weir was confident of a final satisfactory result.

REMOVAL OF THE TESTICLE FOR ROUND-CELL SARCOMA.

February 12th.—The patient's age was twenty-nine years. Nearly all his life he thought he had had an enlarged testicle, but this did not give him any trouble until last October, when it increased greatly in size, became painful, and prevented him from sleeping. Three and a half weeks previous to date, the lower portion of the testicle became reddened, ulceration took place, and a mass protruded which was about the size of a pigeon's egg at first, but grew to be as large as a goose's egg. Four years prior to his admission he had acquired syphilis, consequently, at first sight, it was thought that this might be a case of syphilitic testicle, with a hernial protrusion through the ulcerated portion. Even before this idea was given up, it was decided to remove the organ. A portion of the growth was submitted to the pathologist, who declared the disease to be round-cell sarcoma, a rare affection of the testicle. In this case the absence of enlarged glands in the groin spoke against cancer. The scrotum having been laid open, the cord was reached and tied *en masse*, and the testicle and growth enucleated. Dr. Weir stated that tetanus does not occur when the ligature is passed around the whole of the cord.

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How to Tell the Age of an Egg.—In a solution of common salt, one gramme to one litre, says *El Médico Práctico*, an egg a day old will sink to the bottom, one two days old will descend to half the depth of the liquid, and an egg older than this will float.

# Progress of Medical Science.

Pilocarpine in Scarlet Fever and Diphtheria.—An extended article on this topic, by Demme (*Jahrbuch für Kinderheilkunde*, vol. xvi., pts. 3 and 4), begins with some general remarks on the administration of pilocarpine, which may be summed up as follows:

*First.*—The conflicting accounts, given by different observers, as to the action of this drug, are attributable to its contamination with jaborin, a second alkaloid obtainable from jaborandi, and which, according to Harnak and Meyer, resembles atropine in its physiological action, while the effects of pilocarpine are more like those of nicotine.

*Second.*—The initial dose by subcutaneous injection, up to the tenth year, is 0.005 gramme; children less than one year old should not receive more than 0.001 to 0.0025 gramme. If well borne, the dose may be repeated several times a day, and may even be increased. The dose for internal administration should be two or three times as large as the above-mentioned, dissolved in fifty to seventy-five grammes of water, and should be given in mucilage, or with the addition of other suitable drugs, when there is a tendency to diarrhœa.

*Third.*—When very prompt action is required, as for example in uræmia and croup, pilocarpine should be injected hypodermically. In other cases it may be given by the mouth or the rectum, and in divided doses, especially when prolonged action is desired.

*Fourth.*—Hypodermic injections of pilocarpine are frequently followed by vomiting and symptoms of collapse. These may be prevented by the previous administration of cognac brandy, wine, strong coffee or tea, or an injection of sulphuric ether.

*Fifth.*—There is no danger to the heart from ordinary doses of pilocarpine, but when quantities of more than 0.01 are given several times a day, or continued for two or three weeks, the energy of this organ becomes impaired, as manifested by an irregular and fluttering pulse, lowering of the temperature, and general symptoms of collapse. Associated with the latter we sometimes notice loss of consciousness, and the development of the Cheyne-Stokes type of respiration. These symptoms are usually quickly relieved by suspending the administration of the drug and giving stimulants.

The greater part of the article is then devoted to the consideration of special indications, the mode of application, and uses of the drug in scarlatina and diphtheria. Demme concludes his carefully prepared paper as follows:

*First.*—In those cases of scarlatina where the eruption is, from the outset, slow to appear and imperfect, and where there are concomitant symptoms of severe cerebral irritation or depression, such as clonic or tonic convulsions, tetanus, sopor, etc., the indications are best met by the hypodermic injection of a full dose of pilocarpine. This induces an increased afflux of blood to the skin, thereby relieving the overloaded heart and brain, and the profuse diaphoresis which follows also carries off more or less of the specific scarlatinal poison.

*Second.*—Scarlatinous nephritis varies in degree from moderate inflammatory hyperæmia to the most intense glomerular and interstitial inflammation, and may develop at any period in the course of scar-

latina. It cannot be prevented by the early and regular administration of pilocarpine, but when present, the symptoms can frequently be relieved by the employment of this drug—at any rate, more surely and rapidly than by any other agents.

*Third.*—Pilocarpine is not a specific in diphtheria, as claimed by Guttman (*Berliner klinische Wochenschrift*, No. 40, 1880), but it does act favorably by increasing the secretion of the diseased parts, and thus hastening the loosening and exfoliation of the diphtheritic membranes. It has a similar action in catarrhal laryngitis, croup, and bronchitis with deficient secretion, catarrhal pneumonia, etc. It may also promote the expulsion of membranes and mucus by the initial vomiting, which frequently follows its subcutaneous administration.

Demme states that he obtained the purest samples of pilocarpine from Trommsdorff in Erfurt, and Merk in Darmstadt. Finally, it may be remembered that the drug does not act well administered hypodermically to patients with excessive œdema, or in those affected with scleroderma.

Tincture of Convalaria in Paroxysmal Cardiac Palpitation.—Semonowski reports a case of nervous paroxysmal palpitation of the heart, associated with pain radiating into the left arm, occurring in a pale, nervous woman of thirty years. All kinds of remedies had been employed without benefit, until Botkin advised the administration of tr. convallariæ majalis, in ten-drop doses, four times a day. In the course of a week all the subjective symptoms had subsided, while a previously demonstrable moderate dilatation of the right ventricle and of the left auricle diminished so far as to leave only slight dulness on percussion in the upper part of the left parasternal line. —*St. Petersburger medicinische Wochenschrift*, May 7, 1881.

Chromidrosis.—Dr. T. Colcott Fox reported two interesting cases of chromidrosis to the Clinical Society, London (*Lancet*, June 4, 1881), in which a deep blue-black pigment had exuded upon the skin of the circumorbital region. One case occurred in a girl aged eighteen years, whose menses appeared first at the age of fifteen, and had never since been regular; and since that age the girl had suffered from general malaise, severe headache, and habitual constipation. She was not a hysterical subject. The pigmentation was first noticed in September, 1880, on the lower lids, whence it gradually spread over the adjoining portions of the cheeks. It was always less at the catamenial periods, but seemed to bear a direct relation to the very obstinate constipation, and was more intense and extended the longer the interval between the relief of the bowels. It was found on many occasions that whenever the latter became regular the pigmentation disappeared. As a proof of its genuine character, Dr. Fox described the precautions taken to watch the case on one occasion for thirty-six hours, after the face had been thoroughly cleansed, but the pigmentation steadily returned. The urine was examined on several occasions for indican, which was found always to increase markedly in amount *pari passu* with the constipation and the exudation of pigment on the face. This fact, and the relation of the exudation to habitual constipation, are new points in connection with the affection. Examination of the pigment showed it to present characters in all respects similar to those hitherto recorded by Charles Robin and others. The indian-ink-looking amorphous granules were found insoluble in almost all reagents, hot or cold, but displayed a deep blue color when moistened with glycerine, and when dissolved in hot sulphuric acid, at first gave a beautiful purple hue, and finally, a bistre tint. The pigment was evidently indigogenous.

The second case was a girl of eighteen. She was hysterical and phthisical, and suffered also from flatulent distention and constipation. The black, powdery pigment afforded similar reactions to that in the first case, but the pigmentation was slighter and more fitful in appearance. In both cases, any heat, emotion, etc., which determined the blood to the face, increased the pigmentation. Dr. Fox, in consideration of the fact that these were the first cases presented to a London society, with the exception of one shown by Sir Benjamin Brodie in 1845, entered into a short *résumé* of the subject, and, in reply to the many inquiries of the members, said that there was very little, if any, altered sensation in his cases. It was impossible to say whether the pigment was exuded from the sweat or from the subaceous glands, but it contained no oily matter, which was evidence against its being a steatorrhœa, as Nelligan supposed. No constitutional disturbance followed the removal of the pigment, no bacteria were found in the pigment, and the effect of emotion in producing it was very marked. The indican rapidly became oxidized on exposure to air, and if its occurrence in sweat be admitted, there would be no difficulty in explaining the deposition of the pigment.

A Novel Method of Treating Caries.—Dr. Oscar Kollmann, house physician to the prison for women in Würzburg, reports the perfect recovery of four cases of osseous caries under the employment of inunctions of green soap. In the first case the disease affected the sternum and bodies of several vertebræ, the patient being completely bedridden; the second case was one of caries of the small bones of the foot, while the last two patients had caries, respectively (carious ?) periostitis of one or more ribs. The inunctions were made twice a week, with a sponge, along the back of the trunk and thighs as far as the knees, followed after a half-hour with ablution with warm water. The quantity of the agent employed was fifteen grammes—about a tablespoonful. No other treatment was resorted to, except the internal administration of cod-liver oil. Meanwhile the patients received ordinary prison diet, with the exception in the first case of a glass of beer daily. The author cautions against employing the inunctions oftener than twice a week, in order to avoid exciting an artificial eczema, which would require the discontinuance of the applications for a prolonged period.—*Berliner klinische Wochenschrift*, May 9, 1881.

Antipyretic Action of Conchinin.—Freuderberger (*Deutsches Archiv für klin. Med.*, vol. xxvi.) has found conchinin (Van Heyningen's betachinin and Pasteur's chinidin) very similar to quinine as an antipyretic and as a specific for malarial fevers. It may be given in aqueous solution with the addition of ac. sulphuric., q. s., or in wafers. The dose should not exceed three grammes. In typhoid fever two grammes were sufficient to reduce the temperature 2° C. (3.6° Fahr.) and sometimes even 3° C. (5.4° Fahr.) and more, without producing collapse. In disease having a typical fever-curve, two grammes of conchinin were as efficacious in reducing the temperature as ten grammes of salicylate of soda, while its secondary effects were much less disagreeable and violent than those of the latter.—*Allgem. med. Central-Zeitung*, No. 41, 1881.

# THE MEDICAL RECORD:

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GEORGE F. SHRADY, A.M., M.D., Editor.

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## THE PRESIDENT'S PROGRESS.

PRESIDENT GARFIELD, at the present writing, is doing extremely well, and he seems to have the best prospects of ultimate recovery. To be sure, it cannot be positively said that he is out of danger, or that a relapse similar to the one of two weeks ago may not occur. But the possibility of any complications is growing less every day.

The reported finding of the ball in the abdominal wall, to the right and below the umbilicus, clears up, in a very gratifying manner, some of the grave misgivings as to the extent of injury inflicted and the ultimate chances of recovery. The instrument by which it is claimed that the location of the ball has been found is fully described in another column. If it really has the value asserted for it, the surgical art has received an important addition to its armamentarium.

But, after all, the question of the exact position of the ball is now of secondary importance compared with the precise relations of the ball to the suppurating track.

The best that can happen is the enclosure of the hidden ball in a cyst, and the gradual closing of the wound from the bottom toward the surface. Possibly this has already occurred. There are many things to favor this desirable result in the case. The ball, although more or less flattened, is probably not ragged, as its shallow cup is not capable of sufficient expansion to spread out and serrate its edges. Its extremity is squared off instead of being sharply conical, and it is not therefore more liable to cause irritation than an ordinary rounded or bluntly wedge-shaped bullet. It is, according to latest accounts, quite deeply imbedded in its present locality, a condition most favorable for the encysting process. On the other hand, the missile may be in such a condition, and in such a relation to surrounding parts, as to resist nature's efforts to enclose it in a cyst, and thus be a constant source of irritation and consequent danger. In the absence of positive proof to the contrary as to the ball being such an irritant, its presence in President Garfield's body will be always a natural cause for great anxiety. It is a pertinent question, in view of this fact, whether the time has not come for determining, by some explorative procedure, the real conditions of the surroundings of the ball, and thus clear up all the harassing doubts which must continue to hang around the prognosis. Of course there are many circumstances that have to be taken into account in dealing with individual cases. There is no doubt that such have been duly weighed by the distinguished surgeons in attendance, but in studying this interesting and important case we are privileged to argue on general principles, and make our applications of the same in accordance with the evidence before us.

We have repeatedly taken the ground against probing gunshot-wounds of the abdominal cavity. Consequently, we have heretofore applauded the forbearance of the gentlemen in charge of the President in regard to that point. Now, however, in view of the apparent necessity of clearing up any doubts in regard to the actual state of the entire bullet-track, and the possibility of extracting the missile itself, thus making a complicated case a simple one, it appears warrantable to make a more careful and thorough examination of the wound than has yet been done. The objections against probing a wounded cavity do not longer obtain. Time enough has seemingly elapsed to surround the track of the wound by firm adhesions, thus protecting it from injury of any contiguous organs. If nothing more can be found than the extremity of the cul-de-sac, an important point can be gained in reference to deciding upon the practicability of more direct and, consequently, more effective drainage. If the drainage can be proved to be perfectly satisfactory by actual exploration of the wound, all the difficulties in the case will be cleared up. If the contrary be found to be true, the sooner the necessary outlet is made the better. The danger would appear to be not so much in obtaining a free discharge from the wound of entrance, as in insuring it at all times during the suppurative processes from the deeper portions. The mere extraction of the ball, desirable as this may be, is altogether secondary to the establishment of the most thorough drainage. But these are such self-evident propositions, that we cannot believe they have not been thought over and acted upon by the distinguished surgeons in attendance upon the case. As yet, however, there is no report of the exploration of the sinus farther than was necessary to insure the extraction of the fragment of rib found at the bottom of the pus-pouch.

It is quite true that the case involves an unusual responsibility in its management. There is a nat-

ural and laudable desire to lean toward conservatism, but in an ordinary case, as it occurs in the hospital ward, we do not think that any surgeon would hesitate, at this stage of its progress, to satisfy himself by the necessary explorations not only where the missile was hidden, but whether or no there was any removable obstacle to the rapid healing of the wound. In view of the fact that the President is never safe so long as deep seated suppuration is present, the course and condition of the entire wound-track are matters of much anxiety.

Concerning the general condition of the distinguished patient, there is little to be said that is not favorable. The main indications are at present to insure the freest possible drainage from the wound, and to give the most liberal support to the general system by food and stimulants. These indications fulfilled, there is no reason, barring accidents, why the improvement should not continue and the case should not be brought to a satisfactory conclusion.

We take pleasure in affirming again that the treatment thus far is beyond criticism, and it is fair to suppose that so long as the present medical staff remains in attendance nothing will be left undone to insure the comfort, safety, and ultimate recovery of the illustrious patient.

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### AN INSTRUMENT FOR MEASURING THE PRODUCTION OF HEAT IN LIVING BODIES.

At a meeting in June last, of the Société de Biologie, of Paris, M. d'Arsonval claimed to have invented an instrument which measures with exactness the amount of heat produced by living beings. It is automatic in its working, and tells the amount of heat generated at any given period of time.

The usefulness of such an instrument, if it really performs with exactness what is claimed for it, will be keenly appreciated by physiologists and pathologists. The clinical thermometer, as is well known, shows but one side of the heat-processes going on in our bodies. Thus, the high temperature that it registers may be due to several different causes, such as heat-retention, increased heat-production, or both. H. C. Wood has shown that the actual heat-production may be less when the temperature, as recorded by the thermometer, is high, as in fever, than it is when the healthy animal is richly fed. Again, there may be a largely increased heat-production while the thermometer registers a low temperature, as when the skin of a rabbit is shaved and varnished. Altogether, it is easy to see that the clinical thermometer gives us but an imperfect idea of the real changes that underlie variations in bodily temperature.

M. d'Arsonval has as yet experimented in but a few directions, but he already announces some novel facts. He has studied the differences that exist between mammals and birds as regards the production and retention of heat. Making the experiments upon dogs and cats, he finds that these animals produce heat at an average rate of between seven and nine calories per hour to every kilogramme of body-weight, the temperature of the surrounding air being at 12° C.

On the other hand, pigeons and fowls generate only between four and one-half to five and one-half calories per hour for each kilogramme of body-weight. The experiments, therefore, seemed to show that birds generate less heat per pound of body-weight than mammals. As the temperature of birds is 9°, or more, higher than that of mammals, the conclusion must be that they are good retainers, but small producers of heat.

Some further experiments tended to confirm the above conclusions. When the mammals were starved for forty-eight hours, no very great decrease in heat-production was noticed. In pigeons and fowls, however, which were starved for the same length of time, the heat-production fell to one-third or one-half the normal. This would indicate perhaps a weakness in the heat-producing power, which accords with the previous experiments.

The above are all the results that have as yet been communicated by M. d'Arsonval. It remains to be seen whether they can be corroborated, and whether his instrument possesses the accuracy which is claimed for it. If it does, a great advance can be made in settling vexed questions in the pathology of fever.

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### NEW EXPERIMENTS IN PREVENTIVE INOCULATION.

M. Pasteur recently made a communication to the Paris Academy of Medicine which, according to the *Gazette Médicale de Paris*, "makes an epoch in the annals of science." Without admitting such a claim as this, the communication is certainly of interest in connection with previous remarks which we have made upon the subject of preventive inoculations.

When Pasteur discovered a method of so cultivating the specific germs of chicken-cholera as to give them the power of preventing the disease when inoculated, he asserted it to be possible to treat other specific organisms in the same way. This he has recently done for the virus of charbon. He was furnished with an unusually good opportunity of testing the power of his modified virus. The Agricultural Society of Melun put at his disposal sixty sheep, to be experimented with as he chose.

Ten of these were separated from the rest and kept subject to inspection. Twenty-five others were inoculated twice with the cultivated virus of charbon. After a sufficient time these and another twenty-five sheep were inoculated with the pure virus of the disease. The fifty sheep were then allowed to mingle

together in the same inclosure. The twenty-five not "vaccinated" did not take the disease, while the others did. Those of the latter that died were buried in an inclosure together. A certain number of vaccinated and unvaccinated sheep were then turned into this inclosure and allowed to pasture there. The unprotected were soon attacked with the charbon, while the others were not. Thus M. Pasteur claims to have demonstrated not only the protective power of the modified virus, but also a previous assertion, that sheep pasturing upon ground where animals killed with charbon are buried, will catch the disea e.

M. Pasteur made similar experiments with ten animals of the bovine species, and asserts that the same protective power was secured to them.

Pasteur's communication was received with applause by the society, yet it was not allowed to pass without criticism. M. Colin claimed, and with justness, that the same results had been obtained by himself a year ago, and by Toussaint a little later. He might have added that Greenfield and Burdon-Sanderson had also experimented successfully in the same line. Still no one has ever obtained successful results upon so large a scale or with so much uniformity.

It was also suggested that it yet remains to be proved that the preventive power of the inoculations lasts for any considerable length of time.

Whatever be the question of priority, however, it is certain that Pasteur's results have attracted the most attention of any yet made in this line. And they will probably give a fresh impulse to studies in this direction. It must be remembered that the successes in preventive inoculation have, so far, been with diseases having a close pathological resemblance. And before the experiments of Pasteur, their practical application did not seem easy.

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### OUR INCREASED DEATH-RATE.

Dr. Nagle has published the mortality report of this city for the six months ending June 30, 1881. It shows the number of deaths and the causes of the same during that time. In view of the agitation over our dirty streets last spring, and the strong views promulgated by some medical men on the subject, the statistics published in another column have an especial interest.

It will be seen that the mortality for this year has so far been about twenty per cent. greater than it was during the corresponding period in 1880, the actual excess of deaths being three thousand one hundred and eighty-nine.

This excessive mortality represents an absolute as well as a relative increase. The death-rate per thousand last year in the same period varied, most of the time, between twenty-four and twenty-six. In the past six months it has kept at or above thirty per thousand, and it has been, on the whole, rather higher in the last half of the six months.

The great severity of the past winter was, no doubt, the chief factor in thus raising the death-rate. Examination of the tables, however, shows that the unusual coldness did not act powerfully to increase the mortality from lung diseases. The increase in deaths from pneumonia, bronchitis, and consumption is comparatively small.

On the other hand, the increase in deaths from zymotic diseases is very striking, amounting to about forty per cent. What is still more ominous is the fact that this increase is a continuous one. Last year we called attention to the fact that the mortality from several zymotic diseases, but especially from diphtheria, was almost double that for the year 1879. We now find that the death-rate from this disease has again more than doubled. Scarlet fever, which was not very prevalent in 1880, has increased five-fold in the last half-year. An increase in deaths from typhus, typhoid fever, and small-pox, also swells the list.

The notable feature, therefore, in the statistics, is the evidence it gives of the prevalence of the acute infectious diseases. The severe cold and deep snow, combined with bad drainage and foul streets, are sufficient, in part at least, to explain the increase.

We have just received, as we go to press, the statistics of mortality for the month of July last. They confirm the facts above given regarding an increased death rate. There were 4,378 deaths in this city in July, 1881, while in the same month of last year the number was 3,487. This is a little remarkable, in the light of the fact that a year ago the weather was extremely hot, while the present season has been a cool one.

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Chaulmoogra-Oil in Leprosy—The Nervous Origin of the Disease.—A case of leprosy is described by Dr. William Alexander (*Lancet*) which was markedly relieved by the use of chaulmoogra-oil, after gurjun-oil and cod-liver oil had been tried to no purpose. The symptoms in the case were redness and tubercularization of the face, with symmetrical pigmentation and anæsthesia of thighs, trunk, and arms. The anæsthesia closely coincided with the pigmentation. The pigmented skin was raised in tubercles over the course of the ulnar nerves, and those nerves were felt standing out like cords.

The same writer reports also a case of symmetrical anæsthesia and pigmentation in another patient. This was not a case of leprosy, but the similarity in symptoms, up to a certain point, seemed to prove that there was a similar lesion in the two diseases. As it has been proved that the central nervous system has some control over pigmentation, this fact, taken in connection with the anæsthesia, points toward a nervous origin for leprosy. Danielsson and Boeck, in 1848, Tschirew, Piffard, and others, have made contributions to this view of the pathology of this disease.

# Reviews and Notices of Books.

THE HUMAN BODY: an Account of its Structure and Activities, and the Condition of its Healthy Workings. By H. NEWELL MARTIN, M.A., M.B.D.S.C. New York: Henry Holt & Co. 1881.

THE present work is one of a series designed to supply the lack of authoritative books upon different branches of science which shall be intelligible to others than specialists or strictly scientific men. In the present work Dr. Martin has, we think, succeeded admirably in the object which he has attempted. It presents a clear, succinct, and not very technical account of the physiology of the human body, as given by the best and latest authorities. Besides the purely physiological part, which is the most prominent one, we have a great deal of anatomy, especially microscopic, and there is some attention paid to the subject of hygiene. The physiological part of the work is taken, to a large extent, from Foster and Hermann, but the matter is admirably condensed, and is rearranged with additions of the author. The book is not unworthy, in many respects, to be the text-book of a beginner in medical studies, and there are parts, indeed, which the average reader will probably find rather too abstruse. The chief danger to its popularity, indeed, is that it may be thought too technical for the laity, and too popular for the medical or scientific student proper. Still we would recommend it to both classes, as presenting the latest facts of physiological science in an admirably lucid manner.

The author admits that he is obliged to be somewhat dogmatic in order to be brief, but we can find no fault with the judgment which he has passed upon different disputed questions in physiology.

The hygienic part of the work is excellent also, although it is quite brief. It has additional force from the fact that all the hygienic suggestions follow naturally from physiological facts previously given.

The book is well illustrated and well printed, and is in every way creditable to its author and to the university in which he teaches.

A MANUAL OF THE PRACTICE OF MEDICINE. Designed for the Use of Students and the General Practitioner. By HENRY C. MOIR, M.D. New York: Steam Press of the Industrial School, H. O. A. 12mo, p. 455. 1881.

THIS little manual is one of the best condensations of the theory and practice of medicine that has been published. It contains very much more in its pages than ordinary manuals of four times its size. Those who are familiar with the system of hospital "cram-quizzes" in this city will at once recognize that this book is based chiefly on the notes and abstracts that are prepared by the best quiz-masters for their students. Such abstracts differ very much from ordinary condensations. There is in them no attempt at elucidation of a subject, no unnecessary word, and no discussion of theories. We have presented in this manual, in the same way, only the naked facts, carefully classified and arranged, so that they can be committed to memory as readily as possible.

We look over the book with a feeling of pleasure, for it brings back the times when we sat up till the small hours, cramming up on much the same tables and statistics so well presented here.

The book is based upon the standard text-books, especially Niemeyer, Roberts, and Loomis. There is necessarily a certain amount of incompleteness and lack of harmony in the book, some subjects being better treated than others. There are also a few classifications and tables which can hardly be accepted. Indeed, the fault of such a work in any case is, that in presenting facts briefly and by table, it is necessary to make sharper distinctions, to announce things more dogmatically, and to give greater prominence to some symptoms and some phases of a disease than they deserve. The book of itself would certainly be a dangerous one, but it is something that will help the student vastly in cramming, if that can be considered a desideratum. In the back of the book there is a large number of prescriptions which we do not think add much to its value. Many of them are very commonplace. The author, however, seems to think highly of them, claiming that each one has received the endorsement of experienced physicians.

A TEXT-BOOK OF PRACTICAL MEDICINE, WITH PARTICULAR REFERENCE TO PHYSIOLOGY AND PATHOLOGICAL ANATOMY. By DR. FELIX VON NIEMEYER, Prof. of Pathology and Therapeutics, University of Tübingen, etc. Translated from the Eighth German Edition, by special permission of the Author, by GEO. H. HUMPHREYS, M.D., one of the Physicians to Trinity Infirmary, etc., New York, and CHARLES E. HACKLEY, one of the Physicians to New York Hospital. Revised Edition. New York: D. Appleton & Co. 2 vols. 8vo, pp. 861.

THIS new American edition of Niemeyer fully sustains the reputation of previous ones, and may be considered, as to style and matter, superior to any translation that could have been made from the latest German edition. It will be recollected that since the death of Professor Niemeyer, in 1871, his work has been edited by Dr. Eugene Seitz. Although the latter gentleman has made many additions and changes, he has destroyed somewhat the individuality of the original. The American editors have wisely resolved to preserve the style of the author, and adhere, as closely as possible, to his individual views and his particular style. Extra articles have been inserted on chronic alcoholism, morphia-poisoning, paralysis agitans, scleroderma, elephantiasis, progressive pernicious anæmia, and a chapter on yellow fever. The work is well printed as usual.

THE INDEX CATALOGUE OF THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE, U.S.A. Authors and Subjects, Vol. II.—Berlioz—Cholas. Washington, D. C. 4to, pp. 990.

THE second volume is equal in size to the first, and is, of course, arranged on the same general plan. It includes 12,459 authors' titles, representing 4,934 volumes and 9,810 pamphlets, with 11,550 subject titles of separate books and pamphlets, and 37,310 titles of articles and periodicals. It has been compiled under the direction of Surgeon J. S. Billings, and is a monument of industry and a model of accuracy.

PHOTOGRAPHIC ILLUSTRATIONS OF CUTANEOUS SYPHILIS. By GEORGE HENRY FOX, A.M., M.D. New York: E. B. Treat. 4to.

NUMBERS 7, 8, and 9 of this series contain excellent photographic illustrations of syphiloderma tuberculosum, in its ulcerated, squamous, crustaceous, tuberculous, gummatose, and serpiginous varieties.

THE DIET-CURE: An Essay on the Relations of Food and Drink to Health, Disease, and Cure. By T. L. NICHOLS, M.D. New York: M. L. Holbrook & Co., 1881.

THE author of this work says that he has written it in order "to do good and to get good." His different chapters cover the usual subjects treated of under the head of diet and disease. Their contents seem to be for the most part correct, and well put. The book is a sufficiently useful addition to the list of popular works on this same subject.

# Reports of Societies.

## NEW YORK PATHOLOGICAL SOCIETY.

*Stated Meeting, May 25, 1881.*

DR. T. E. SATTERTHWAITE, PRESIDENT, IN THE CHAIR.

### SARCOMA OF THE THIGH.

DR. A. C. POST presented a specimen of sarcoma, which apparently originated in the periosteum of the femur, near its lower extremity. It was removed from a male patient, nineteen years of age, who first became aware of the existence of the tumor a short time before Christmas of 1880. The tumor had grown rapidly, was very painful, and had given rise to emaciation and loss of sleep. There was no enlargement of the glands in the groin. Dr. Post amputated the thigh a short distance below the lesser trochanter, two weeks ago. Although the patient was very feeble at the time of the operation, he rallied well, and the stump healed mainly by first intention. His general condition, since the amputation, had improved very markedly. In dressing the stump, Dr. Markoe's plan of thorough drainage was adopted.

As a singular coincidence, Dr. Post mentioned a similar tumor existing in a man forty years of age, who first noticed its presence early in the present year. The glandular enlargement was very slight. He proposed to operate for its removal on the following day. The disease had been painful from the mechanical stretching of the parts covering it. The pain had been relieved considerably by smearing the parts with belladonna ointment.

Dr. Post remarked that, in the same class of cases, there would probably be greater security in amputating at the hip-joint, rather than below it. There are many cases in which the disease has advanced so high as to preclude any other operation than amputation at the hip-joint, and in such cases that operation should be performed, although it is natural that the disease should return more speedily than if it had made less progress. The reason why there should be more cases of return of the disease after resection than after amputation through the continuity of the bone, is because there are so many cases which do not admit of any operation other than resection.

One of his colleagues had expressed the opinion that the operation was scarcely justifiable, because the disease is so likely to recur; but Dr. Post answered that, if the duration of life would not be increased, the patient's comfort would be greatly increased, and therefore, as a matter of euthanasia, it would be desirable to remove the diseased mass. He believed that amputation would be justifiable even if the glands in the groin were considerably enlarged.

DR. J. C. PETERS referred to a case in which operative interference was refused, and the patient suffered extremely from pain, and died in consequence of a sarcoma developing after-fracture through the lower part of the femur.

DR. JOSEPH W. HOWE suggested division of the larger nerves of the lower extremity, merely for the purpose of relieving the pain; and he also thought that the growth of the tumor would be diminished by such an operation.

DR. POST remarked that the disability of the patient would not be relieved by such an operation, as the lifeless, motionless, heavy mass would remain.

THE PRESIDENT remarked that, according to his observation, periosteal sarcoma returns in the cicatrix, and he cited one case in which the disease reappeared in the cicatrix several times after amputation.

DR. BRIDDON remarked that heterologous growths increase after division of the nerves.

DR. HOWE thought that Dr. Briddon had no authority for such an assertion, as sometimes the nerve-supply is cut off by the pressure produced by the tumor, and in just those cases the growth is usually most rapid.

The PRESIDENT remarked that it had been proved that, after the vascular supply had been cut off, such tumors will grow just as rapidly as before; but he thought that cutting off the nervous supply would diminish the growth of the tumor.

DR. BRIDDON doubted the existence of nerves within these tumors, and also doubted if cutting off the nerve-supply would in any way influence the growth of the tumor. As to the propriety of removing such growths, there was no doubt that they should be removed early. He thought it would be well, in such cases, to make a primary amputation through the continuity of the bone, and subsequently amputate at the hip-joint when the stump had atrophied, as the latter operation would be much less dangerous than when done primarily.

DR. C. S. BULL presented a specimen of

### GLIOSARCOMA, OR SMALL-CELL SARCOMA OF THE RETINA AND CHOROID.

The patient was a child, about three and one-half years, in whom the parents had noticed a yellow reflex from the fundus of the left eye for more than a year. When the patient was first seen by the physician in charge, there was intense intra-ocular inflammation, very shallow anterior chamber, the lens and iris pushed forward toward the cornea, the exophthalmus quite marked, and a distinct orbital growth. The eyeball and contents of the orbit were at once removed, and the orbit cleaned so far as was practicable; but within a month the growth returned in the orbit and grew very rapidly. The physician very justly did not deem any further operative interference advisable. The child lingered for several months, and then died, apparently from asthenia, with no head-symptoms till toward the end of life.

A microscopical examination showed that nearly all the tissues of the eye were involved, the main growth being a dense infiltration of small, round cells, with some fibrous matrix, not specially marked. It was not possible to say definitely where the growth began, but from indications in some of the sections, it was probable that the growth was at first retinal, beginning in the outer granule layer, and thence extending in all directions. This was also rendered probable by the age of the patient, choroidal tumors

being very rare indeed in young children, while retinal tumors are not very infrequent.

PACHYMENINGITIS HEMORRHAGICA.

Dr. George L. Peabody presented the dura mater removed from the body of a woman, forty-seven years old, who died comatose after an illness of two weeks. The history was incomplete. She was found unconscious on a doorstep, continued unconscious for several days, and then became conscious sufficiently to be able to answer certain questions by movements of her head, and to say yes and no. She was hemiplegic, the paralysis being entirely upon the right side of the body. She died completely comatose. At autopsy he found pachymeningitis hemorrhagica, not confined to, but most marked upon the left side of the head. A very copious hemorrhage had occurred. There was fluid blood which was undergoing retrograde metamorphosis, and deposit of pigment had begun in the tissues. The entire left hemisphere had so changed in shape as to make it nearly unrecognizable as a central mass. Fluid blood had accumulated upon the surface of the brain to the extent of *six* ounces, the hemorrhage occurring apparently into a portion of the false membrane, or else between the tissues of the dura mater; for it had filled all the available space, and had evidently burst through the false membrane and made its way into the space between the dura mater and the pia mater. The patient also had chronic diffuse nephritis.

THE VAPOR OF WICKERSHEIMER'S FLUID FOR PRESERVING SPECIMENS.

Dr. Peabody presented a specimen of gangrene of the foot and lower part of the leg, which had been mounted in the vapor of Wickersheimer's fluid under a bell-glass for one month, and was in a perfect state of preservation. He also presented two hands mounted in the same manner, removed from the body of a negro, each of which had a supernumerary finger. The man died of phthisis, at the age of thirty-two. His father and grandfather had supernumerary fingers, and also toes.

VESICAL, RENAL, AND BILIARY CALCULI.

Dr. E. C. Wendt presented a vesical calculus removed at autopsy, which had a portion of a soft catheter for a nucleus. The man had suffered from vesical catarrh for a number of years, had been accustomed to use a catheter, and finally the soft instrument broke, and a portion of it was left in the bladder. From that time his vesical symptoms were much aggravated, and at times there was a bloody discharge. The man died of pneumonia.

He next presented an almost perfect cast of the renal pelvis. The patient had suffered from repeated attacks of renal colic.

Dr. Wendt also presented numerous specimens of biliary calculi, and in each instance hepatic symptoms had been absent. In this connection he made the suggestion that the gall-bladder may not be absolutely essential to the human economy. Gall-bladders distended with biliary calculi are found very frequently at autopsy, and it is impossible for bile to enter them when so filled.

Dr. Post asked if there was any special reason why the foreign body was not removed from the man's bladder?

Dr. Wendt replied, "the patient's general condition was so poor that it was believed an operation would be inexpedient."

Dr. Briddon remarked that he had presented to the society, some time previously, two vesical calculi in which the nucleus was a portion of an elastic catheter. In one case the fragment of the soft instrument remained within the bladder only a short time, but became so encrusted that it could not be removed through the urethra, and perineal section was made.

Dr. Post remarked, concerning removal of foreign bodies and calculi from the bladder under unfavorable circumstances, that a paper had been written by a Scotch surgeon, who had shown that by operating upon unfavorable cases he had obtained a favorable degree of success; and the opinion also was given that surgeons had been too much in the habit of regarding unfavorable cases of foreign bodies and stone in the bladder as beyond the reasonable reach of surgical aid. He thought there was no condition in which the patient was likely to survive an operation in which he was not likely to derive benefit from it, and therefore it was desirable that such foreign bodies should be removed.

The society then went into executive session.

## NEW YORK SURGICAL SOCIETY.

*Stated Meeting, April* 26, 1881.

Dr. H. B. Sands, President, in the Chair.

Dr. E. L. Keyes read a paper on

ARTERIO-VENOUS ANEURISM.

Dr. J. C. Hutchison, in 1864, in a military hospital in Newark, saw a case which was the result of a wound of the femoral vein and artery, inflicted nine years before with a penknife. The patient had suffered no inconvenience from it, and no marked tumor had developed until about the time he was operated upon. It was at first supposed to be a traumatic aneurism of the femoral artery pressing on the femoral vein, and for its relief the external iliac artery was ligated without benefit. Six months subsequently a surgeon applied a ligature to the common iliac artery, and the patient died of peritonitis a week after the operation. The surgeon cut directly through the peritoneum, because he found it impossible to reach the artery in any other manner. Dr. Hutchison thought that a ligature above and below the tumor might have cured the patient.

Dr. Van Buren referred to the case of an American from St. Louis, reported by a London surgeon, in which the patient was wounded by the accidental discharge of a Derringer, the bullet passing into the front of the thigh, wounding the artery and the vein, and an arterio-venous aneurism finally resulted, which led to a great deal of diffuse swelling and weakness of the limb, and also more or less disease of the skin. The patient applied for relief on account of the general eczema of the limb with ulcers. Apparently the mixture of the arterial and venous blood kept up the cutaneous disease. The case was reported at one of the London societies; several prominent surgeons were consulted, and all declined to interfere by operation. After one or two years it was decided that the patient should wear a laced stocking, which relieved him to a very great extent. It had always seemed to Dr. Van Buren that the case conveyed a practical lesson of a great deal of value, for experience has taught us the uncertainty of all means heretofore applied for the cure of this condition, and it has also taught us that the incon-

venience which follows the malady is really not sufficiently great to warrant an operation, which places the patient in danger. He believed that the London surgeons did right concerning the man from St. Louis.

The recent success by Annandale rather revived the feeling that it would be proper to undertake an operation with the view of effecting a radical cure, and that was the consideration which influenced him in advising operative interference in Dr. Keyes' case. But, after the additional experience which it had given, he would advise *against* any operation whatever, for this man's condition really was not a serious one.

There is no real danger to be apprehended from letting them alone, other than using such treatment as is commonly adopted for varicose ulcers; and probably the most serviceable is properly graduated pressure, for example, by means of Martin's bandage.

Dr. Keyes said that in Mr. Cox's case the aneurism burst.

Dr. Van Buren further remarked that Nélaton directed attention to the fact that the bruit is unequal in the direct and return current; that there is a bruit with the contraction of the ventricle, and a second bruit with the return current, which he regarded as pathognomonic of this form of aneurism. That statement was valid in two cases which Dr. Van Buren then had in mind.

The President asked how the second bruit was explained, and Dr. Van Buren said that it was due to the crossing of the currents of blood. In Dr. Moth's case the gangrene which followed was quite evidently due to the fact that the blood was always of a mixed character, and did not furnish the requisite amount of nutrition.

Dr. Keyes ascribed the absence of gangrene in his case to the peculiar character of the aneurism.

Dr. L. A. Stimson was inclined to believe that gangrene following the Hunterian operation is not due so much to the mixed character of the blood as to the mechanical condition, which is similar to that which exists when two aneurisms exist in the course of a vessel, or when a second ligature has been applied higher up in the course of the vessel. In that case two collateral circulations are required to maintain the nutrition of the limb, and in a case of arterio-venous aneurism in which the ligature is applied high up, the blood which makes its way around does not pass over the limb to be distributed to the distal portions, but enters the venous current and returns to the heart. In other words, the pre-existing condition remains, with the addition of a decrease in the supply of blood for the limb below. If that be so, the principle which governs the treatment of traumatic hemorrhage would seem to require the application of a ligature close to the sac, and then the only danger would be from a recurring strain through the distal segment of the artery. Whether that would be sufficient to continue the disability he was not able to say, but thought it would not.

Dr. Keyes said that that operation had been performed by Anel, and in all of his cases it failed. A single ligation of the artery above the sac is quite likely to result either in secondary hemorrhage or gangrene.

Dr T. M. Markoe had always regarded the condition of a limb which was the seat of arterio-venous communication as one in which vitality was diminished by reason of a mixture of arterial and venous blood. If that be true, cutting off all direct supply of blood, as in the Hunterian operation, leaves the opportunity for intermixture of the two kinds of blood without the benefit which is derived from the force of the direct current of arterial blood. With that view, it had always seemed to him that the condemnation which the operation had received from the profession was a just one. All these dangers from intermixture might be entirely avoided by ligating the artery both above and below the injured point, thus leaving the parts in very much the state of a simple varicosity of the veins opposite the point of communication. In cases of mere arterio-venous communication, he was disposed to let the limb alone; but when an artery had communicated with a vein so as to produce a tumor between the vessels, or to make a tumor on the vein, he thought a condition existed which justified the consideration of an operation, and he would be disposed in those cases to ligate the artery above and below.

Dr. Keyes thought that Bryant recommended such a procedure, but that Spence's case was the only one which he had found recorded.

Dr. Van Buren remarked that the alteration which exists in the veins in this form of disease is so constant, that when we attempted to tie the artery above and below, it would be difficult to distinguish between arteries and veins, and the operation would finally not differ very greatly from that of Antyllus.

The President thought that it would be difficult to adopt the plan proposed by Dr. Markoe, as the operation might not be practicable. The topography of the parts is often so much changed by the disease, that it would be impossible to secure the artery above, and especially below, without opening the sac or cutting through veins, which pulsate as do the arteries and carry the same kind of blood. Dr. Sands then referred to a case which came under his care in Roosevelt Hospital, in 1875, on account of an arterio-venous aneurism of the right leg. Although the leg was considerably enlarged, there was no circumscribed tumor, but arterio-venous communication was evident, and a loud murmur was heard over the site of the original wound, which was made with a penknife. It was supposed to have implicated the peroneal artery and vein. Pulsation extended over nearly the entire length of the leg, and the superficial veins of the leg and foot were distended, and pulsated with the same force as the arteries. The murmur was systolic, and besides this there was a rough sound which was continuous. The patient had, in addition, some eczema, and an ulcer on the leg of the size of a silver half-dollar, which it was feared would open some vessel, and thus give rise to serious hemorrhage. That was the main reason why the patient sought medical advice. Rest, position, and the application of a bandage to the limb, caused the ulcer to heal. Afterward he wore an elastic stocking, and since then he had from time to time reported himself to Dr. Sands as being very comfortable. A similar case also came into Bellevue Hospital, and was under the President's observation, and in that instance also all the surgeons were averse to operative interference. He had never seen an arterio-venous aneurism which was so threatening in character as to render an operation expedient.

Dr. Markoe said that most of these tumors have communication from the side of an artery into the side of a vein. Dr. Keyes' case presented a remarkable exception in that the artery opened into the dilated vein and was not continuous from above downward, which is the usual condition. He thought

it would not be difficult to follow a continuous vessel either from above downward or from below upward, and operate by ligating the vessel above and below.

THE PRESIDENT asked if it would be practicable to do so when the arterial passages were overlaid by the tumor?

DR. MARKOE thought that such an overlapping might embarrass, but not forbid, the operation. He thought it was the only reasonable operation, if any was to be performed.

THE PRESIDENT said, that in certain cases of arterio-venous aneurism, the Hunterian operation, if it does not always cure, rarely does any harm.

It is well known that most of the cases of orbital aneurism are cases of arterio-venous communication between the internal carotid artery and the cavernous sinus. Some of these cases have been cured by ligating one or both carotid arteries in succession, while many have not been affected by such operations; but only a very few patients have been injured by it. The ligature in his hands had been serviceable in two cases within the last eighteen months, diminishing the protrusion of the eyeball and the buzzing noise; but in neither case did it cure, and in neither case would ligation of the opposite carotid artery have effected a cure, because it was ascertained that pressure made so thoroughly upon the artery as to arrest all circulation through it did not cause the murmur to disappear; for that reason he did not ligate that vessel.

DR. MARKOE remarked that it had been done successfully several times. Further, in aneurism in the cranium, the lesion is within the cavernous sinus, which has strong walls, is on the artery itself, and is generally due to traumatism. There is a communication with a cavity which has non-yielding walls.

DR. BRIDDON referred to a case in which he ligated the carotid artery for a pulsating tumor of the orbit. The patient died twelve days afterward from causes not well ascertained, but the exophthalmos had greatly subsided before death occurred.

### OSTEOCHONDROMA OF THE FEMALE BREAST.

DR. LANGE presented a specimen with the following history:

A woman, widow, fifty-one years of age, from a healthy family, noticed a small nodule about the size of a berry in her left breast, below and laterally of the nipple, something like twenty years ago. About seven years ago the same was about the size of a nutmeg, and since her climacteric period, about three years ago, it has grown distinctly, without, however, causing any discomfort. A yellowish fluid here and there was discharged from the nipple, which ceased to flow about five months ago, and since then the growth became rapid, and a troublesome, burning pain set in. About the time of the operation, the greater part of the breast consisted of a hard mass, in which one large and several smaller nodules could be distinguished. Two weeks previous a cystic cavity had been opened by incision, containing fluid of the same quality as that discharged from the nipple before. Several axillary glands were slightly increased in size. The operation consisted in entire removal of the breast, together with the contents of the axilla, in one piece. Speedy recovery took place under the permanent antiseptic dressing.

The tumor—its greater part—consisted of true cartilaginous and osseous tissue, the former mostly in its variety as hyaline cartilage. One large, roundish division, about one and one-half inch in diameter, contained a large, bony nucleus. Otherwise the tumor consisted of a number of smaller roundish divisions, separated from each other by strong layers of fibrous tissue, and showing partly glandular structure with cartilaginous nuclei scattered.

The case seems to be the first of this variety observed, beyond doubt. Billroth, as well as Gross, in their very exhaustive treatises on tumors of the mammary gland, doubt its occurrence altogether, and do not regard the few cases heretofore described as such by Astley Cooper and Cruveilhier, as stated beyond doubt.

### HERNIA INGUINALIS PROPERITONEALIS INCARCERATA GANGRÆNOSA—RESECTIO INTESTINI—MORS.

Mr. W——, forty-five years of age, an otherwise healthy man, had noticed a right inguinal hernia about one year and a half. He always wore a truss, which gave him entire relief, and proved to be sufficient for keeping back the intestine.

On April 6th he was taken, without apparent cause, with nausea and vomiting. He had a passage on the evening of that day, but none after that. The following two days vomiting became very vehement, the abdomen somewhat tympanitic, and the patient commenced to feel weak. The physician, who saw the patient on the second day, administered narcotics, and on the fourth day vomiting subsided, but repeated ructus and nausea remained.

The case was considered to be one of internal incarceration. At no time had anything of the hernia been visible, nor had manipulations been made by the physician or the patient himself. A certain tenderness of the abdomen, and especially so in the right hypogastric region, had existed since the patient was subjected to medical treatment.

Dr. Lange was called in consultation on the 10th of April, and found the patient somewhat exhausted and in a state of anxiety; voice weak and slightly hoarse; very slight elevation of temperature, if any; pulse a little accelerated, tolerably strong; abdomen tympanitic, tender spot above Poupart's ligament on the right side, where, on deeper pressure, a resistant, roundish mass could be felt, its location being about the internal opening of the inguinal canal. There existed no protrusion of the abdominal wall whatever above it. Inguinal canal empty.

There was no doubt about the existence of an obstruction of the intestine, and the probability of its being seated above the right Poupart's ligament. He therefore proposed to make laparotomy corresponding to that spot, to ascertain the nature of the obstruction, and then to do whatever might seem advisable. The patient, being afraid of a cutting operation, declined, and asked him to call again at noon, that is, about four hours later. An ample injection of lukewarm water was administered, and morphine by the mouth. At noon the patient felt easier. He had no vomiting, but repeated eructations; had two watery passages, in which small, hard pieces of fecal matter were found, and said that wind had passed. Abdomen decidedly less tympanitic, pulse rather better, expression of face more quiet. The resistant mass above Poupart's ligament could now be felt more distinctly. It was tender on pressure as before, and presented the apparent size of a hen's egg. Dr. L. expressed distrust in this seeming improvement, and advised immediate operation, in case of repeated vomiting. The latter set in a few hours later, but Dr. Lange was not called, and I saw the patient about nine o'clock in the even-

ing, when all the symptoms and a more advanced collapse had made their reappearance. Laparotomy was at once performed above the suspicious spot, and after opening the peritoneal cavity, two pads of small intestine were traced to a small incarcerating opening in the peritoneum, in the direction of the internal opening of the inguinal canal. A roundish mass slightly protruded the parietal peritoneum toward the abdominal cavity, and it was also noticed that quite a slight elevation had marked itself, after the patient was under the influence of the anæsthetic, on the anterior aspect of the abdominal wall.

A very cautious traction was made on what seemed to be the upper part of the incarcerated gut, but without result. It therefore seemed advisable to cut down to the incarcerating ring. For that purpose Poupart's ligament had to be cut across, when the hernial sac, being about the size of a small hen's egg, emerged. So far everything went on satisfactorily, but now, in the attempt to keep back the intestine from protruding through the abdominal opening, while the patient vomited, the contents of the gut at once discharged into the peritoneal cavity. The incarcerating ring was separated as rapidly as possible. A gangrenous hernia, involving the whole thickness of the small intestine, was pulled forward, whose walls, corresponding to incarceration, presented gangrenous defects, the closure having been effected by peritoneal adhesions only. There existed peritonitis, as it seemed, exclusively along the upper largely distended end of the gut, which here and there was covered with yellowish, fibrinous exudations. A great quantity of thin, fecal matter was discharged, and resection of the gangrenous intestine was performed according to the method of several German surgeons. The gut removed in this manner measured about five to six inches on the convex border. The edges of the intestine were united by a double row of Lembert's sutures, for which disinfected silk was used. A stream of warm water was constantly directed through the lower part of the peritoneal cavity, in order to remove as much as possible of the contents of the gut which had escaped into it, and to counteract the loss of warmth, it being imposible to keep back the tympanites and distended gut in a desirable manner. During the operation the upper part of the gut swelled enormously before the provisory ligature, and was punctured once to relieve it from its contents. The little wound thus made was likewise closed by suture. No antiseptic precautions, except spray, were used. The whole operation lasted more than two hours, and the patient became more collapsed and died six hours later. Post-mortem was refused from ritual scruples.

The case belongs to the group of those lately described by Kroenlein as hernia inguinalis properitonealis.

Dr. Lange remarked that further consideration had led him to believe that, taking into account the advanced gangrenous destruction of the incarcerated gut, every task to separate the incarcerating ring must inevitably be followed by breaking of the tender adhesions which closed the gangrenous holes, and that the immediate neighborhood of the latter to the peritoneal cavity must have been followed by escape of fecal matter into the peritoneum. The only chance for the patient, if there existed one, was in opening the sac without disturbing the incarceration, and in establishing an artificial opening above the incarceration.

The latter, as well as the anus præternaturalis, remaining after entire separation of the incarcerated gut, would have to be subjected to operative interference later. Resection of the gut, if carefully performed, is an operation of long duration, which could not be borne by the patient in his state of advanced debility.

Further, it was important to decide what was the cause of the peritonitis already in existence, whether the latter was due to infection from the gangrenous inflammation at the spot of incarceration, or to the hyperdistention of the gut above, which perhaps could involve alterations of the walls, and their diffusibility, giving in this way issue to a peritonitic inflammation. At all events, it was striking that peritonitis seemed to have seized the upper end of the intestine, while the lower seemed to be free from inflammation. On the other hand, cases were not so very rare in which inflammation of the incarcerated gut passed through all its stages without proceeding toward the peritoneal cavity.

Regarding the surgical interference, it will always depend upon the patient's general condition whether we at once ought to resort to resection of the gut, and thus offer the chance of recovery without the very troublesome stage of anus præternaturalis. Individualization in these cases might be particularly important.

An advanced state of debility being present, it might in general be preferable to choose an operation which could be performed in as short a time as possible.

## Correspondence.

### THE TRADE-MARK SYSTEM.

To the Editor of The Medical Record.

Dear Sir—The letter of "Franciscum," in your issue of July 23d, is polite and courteous, but not convincing. The original resolution is so ambiguous and so faulty in syntax that its real intent is masked. Apparently it is framed in the interest of trade, dictatorially assuming to force the physician into the observance of certain rules to be prescribed by pharmacy. Objectionable and entirely beyond the pale of legitimate medicine though it be, the resolution becomes the more obnoxious when used as a species of grotesque advertising. It is here that its real animus shows distinctively. This is seen in the action of the Medico-Legal Society of Philadelphia, wherein it is asserted that there are only two legitimate manufacturing pharmacists in the United States, and that the products of laboratories other than those of these two mentioned must be placed upon an "index expurgatorius." The circular sent out broadcast, professing to be solely in the interest of scientific medicine, winds up as a glaring, presumptuous advertisement, and must, *ex necessitate rei*, defeat the very object which it seeks to gain.

The resolution offered at Richmond lacks every element of strength, of logic, or of legal soundness, and its weakness is most painfully apparent when it has to be bolstered up by devices equally weak.

Should we look at it simply as an emanation of trade rivalry, then we must admit that the system of trade-marks is of great commercial value. Mr. Edmund Johnson, F.S.S., of London, says, in a re-

cent article (*Chemist and Druggist*, May 14th): "The manufacturer, by the registration of a trade-mark, can secure to himself, his successor, and assigns, the absolute and exclusive right to use that mark in connection with his goods, and to identify any particular class of them sold with that mark as being of an unvarying and standard degree of excellence. The public, on the other hand, learn to look upon the manufacturer's trade-mark as a guarantee of such standard degree, from which they know he cannot depart, except under penalty of losing both credit and custom. Thus, the trade-mark affords security to the purchaser, and makes honesty the best policy on the part of the manufacturer."

All medicinal, pharmaceutical, and hygienic trade-marks, or patents, are required by law to be registered. Any one can for himself find out the nature of any trade-mark preparation, since the ingredients entering into its composition are registered and published. Every physician is daily in the habit of prescribing certain preparations of cod-liver oil, of the hypophosphites, of malt, etc., all of which bear trade-marks—and this he does without infringing upon any ethical law whatever. Secret remedies, unpatented, in which no clue to working formulæ is given, are, of course, contraband, and are not prescribed by the enlightened practitioner. The argument is singularly weak which would foist dishonesty upon pharmacists using trade-marks. The active physician can never certainly declare that his prescriptions are always compounded *secundem arte*. The abolition of trade-marks would not secure to him any greater certainty that his prescriptions would be filled with pure, fresh ingredients. He must trust somewhat to the honor of his druggist. If such an one has for years proven himself reliable, the physician may naturally suppose that he will continue so to be. If a trade-mark preparation has for years given satisfaction and accomplished the ends claimed for it, we may also suppose that the best interests of the manufacturer will be subserved by keeping it up to its high standard. The prevention of competition *does not* increase price. Some of the articles without trade-marks are sold at prices which, when relative doses are considered, would send opium up to $150 per pound. Including freight from Jamaica, the price to the importer on one of these drugs is thirteen cents per pound, and it is sold for three dollars per pound. And with this enormous profit, what assurance have we that the drug is pure and genuine? Only the *ipse dixit* of the importer. So much for the resolution as a trade device. How does it concern us professionally? The profession is regarded as an enlightened body, and will not fancy any infringement upon its prerogative. Its members are in the habit of conscientiously discriminating in the use of their remedies, and they do not solicit or require any advice from those outside of medicine upon matters of ethics or of therapeutics. If a medicine is inoperative, they cease using it. If a preparation has lost its efficacy because it bears a trade-mark, they will not prescribe it. If the pharmacists quarrel among themselves, or if they are divided in opinion upon matters of trade, they will consult lawyers and not physicians. In matters of praxis the physician will not feel disposed to yield his judgment to the demands of trade. The whole matter belongs to the manufacturing pharmacists alone, and should not have any place in the discussions of the American Medical Association.

HORATIO R. BIGELOW, M.D.

1502 FOURTEENTH STREET, WASHINGTON, D. C.

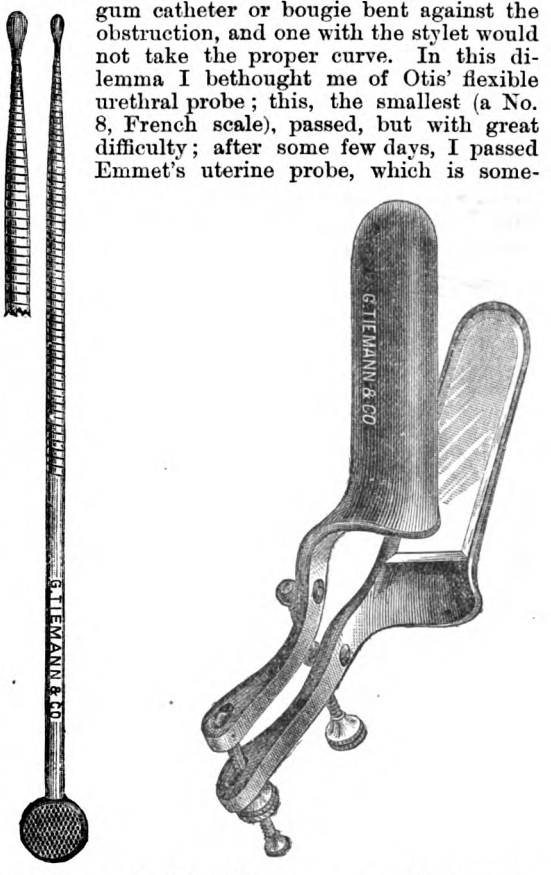
# New Instruments.

## DESCRIPTION OF A NEW DILATOR FOR STRICTURE OF THE ŒSOPHAGUS, AND OF A NEW SPECULUM VAGINÆ.

BY I. L. CRAWCOUR, M.D., M.R.C.S., ENG.,

FORMERLY PROFESSOR OF MEDICINE, NEW ORLEANS SCHOOL OF MEDICINE.

SOME time ago I was called to a case of stricture of the œsophagus. A child, eight years of age, had accidentally swallowed some condensed lye. Four months had elapsed since the accident, and nothing had been done. When I saw the child it had not been able to swallow anything for three days. The smallest œsophageal sound would not pass, a small gum catheter or bougie bent against the obstruction, and one with the stylet would not take the proper curve. In this dilemma I bethought me of Otis' flexible urethral probe; this, the smallest (a No. 8, French scale), passed, but with great difficulty; after some few days, I passed Emmet's uterine probe, which is somewhat larger, and in this way was enabled gradually to dilate the stricture. The child meanwhile was fed by enemata. The stricture was gradually dilated by means of ivory bulbs attached to a flat metallic wire. It struck me that a series of flexible bougies, made on the spiral wire system, would be useful, not only in such cases, but also as urethral dilators, and I asked Messrs. Tiemann & Co. if they could make me some. It was a question whether they could be made of sufficient size and yet retain their elasticity. Messrs. Tiemann have made me a set of four, which are admirable and answer every purpose.



As will be seen by the cut, they are fifteen inches long, and have a broad, flat handle. They terminate in an acorn-shaped bulb and are as follows:

No. 1. Bulb No. 15, French gauge, attached to a short and narrow neck, rapidly increasing to No. 17.

No. 2. Bulb 17, shank 19.

No. 3. Bulb 19, shank 21.

No. 4. Bulb 21, shank 24.

These are the sizes which I think will be found in practice most useful, and, thanks to the skill and patience of Messrs. Tiemann, they are perfectly flexible.

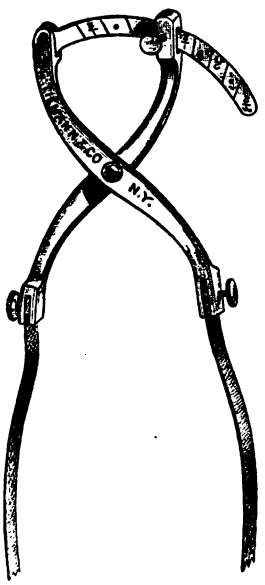
Messrs. Tiemann have also made, at my suggestion, a new speculum. In using nitrate of silver, iodine, or nitric acid, we are very apt to injure our ordinary metallic speculums. To avoid this I suggested hard rubber as the material, and proposed the valves should be lined with mirror-glass, in order to get sufficient light. This also has been done, and I find the instrument works most admirably, and I think supplies a want which has been long felt.

## A NEW CYRTOMETER.

By THEO. A. WEED, M.D., L.R.C.P., London,

CLEVELAND, O.

The accompanying cut represents a cyrtometer, made for me by Messrs. Tiemann & Co., of New York, which I have used for the past five months with very much satisfaction, and knowing it to meet the many requirements not fulfilled by others, I cannot but feel certain that it will be appreciated by all those who employ it.



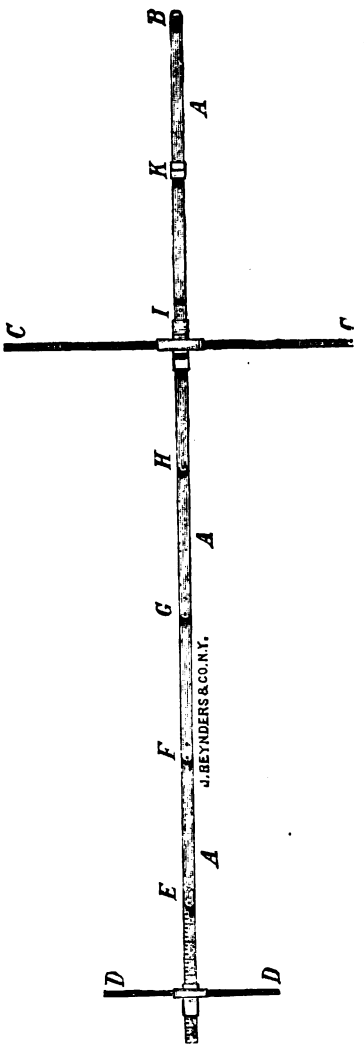
The instrument consists of two arms, each 2½ inches long, joined together by a screw, after the scissors pattern, holding narrow strips of aluminium long enough to completely encircle the chest. To the distal ends of the arms is attached an indicator, which may be set at any point on the scale. The manner of using the instrument is as follows: set the indicator at any given point, by means of the thumb-screw; place the strips tightly around the chest, and mould them to fit exactly the various depressions and elevations; loosen the thumb-screw on the indicator; open the scissor-arms, and remove the instrument without displacing the strips; place the indicator in its former position, and lay the instrument on a large sheet of paper; trace carefully all the curves of the strips with a lead-pencil, and the result will be an accurate outline of the chest-wall. Now, if the instrument be reversed, end for end, upon the paper, the position and character of the difference between the two sides of the chest will become apparent. It is unnecessary for me to discuss the many different diseases of the lungs in which a knowledge of existing elevations or depressions of a localized part of the chest-wall is of paramount importance to the physician.

This instrument, with shorter strips, will be found very useful in many of the local deformities which are found in the practice of every physician, and I am sure that all those who may use it will appreciate its worth.

## AN INSTRUMENT FOR MEASURING THE LOWER EXTREMITIES CORRECTLY.

This instrument was constructed in the early part of 1875, but a description of it has not heretofore been published; being called for by the profession, it is described as follows:

*A, A, A* is a bar of spring steel nine-sixteenths of an inch wide, one-twelfth of an inch in thickness, and five feet six inches in length, at the end and under surface of which, *B*, is fixed an olive-shaped ivory point. *C, C* is a piece of spring steel, one foot and ten inches in length, three-eighths of an inch wide, and one-twelfth of an inch in thickness; this, by means of a slide, into which it is fixed, is made to move upon the bar *A, A, A* at right angles to it. *D, D* is another piece of spring steel, eleven and one-half inches in length, one-fourth of an inch wide, and one-twelfth of an inch in thickness; this also is fixed in a slide, and moves upon the bar at right angles to it.




The subject whose extremities are to be measured with this device, is placed in the horizontal position on the back, the ivory olive-shaped point is placed in the intraclavicular notch, or angle formed by the ascent of each sterno-cleido mastoideus muscle from its sternal origin, and allowing the bar to pass downward over the symphysis pubis, between the lower extremities to beyond the feet; the pelvis is then set at right angles by setting the superior spinous process of each ileum to the edge of the sliding cross-bar *C, C*; then move the cross-bar *D, D* up to the soles of the feet, and if there is any dif-

ference in the length of either extremity, it will be manifest.

The instrument has lock-joints at *E, F, G, H, I,* and the lengths slide upon each other at *K*, so that it can be folded into a space of eleven inches. The cross-bar *D, D* can be withdrawn, and placed in its slide so as to be parallel with the long bar, and the cross-bar *C, C,* being in two sections, can be changed as in the case of *D, D,* making it take up so little space that it can, without inconvenience, be put in the breast-pocket.

For measuring the extremities of persons of diminutive stature, it can be shortened by folding one or more joints, and using the clamps, which are a part of the instrument, to retain the folded part in line. Its weight, when closed, is less than eleven ounces, and it can be obtained from John Reynders & Co., surgical instrument makers, No. 303 Fourth Avenue, New York.

THOMAS H. HOLGATE, M.D.

149 WEST FOURTEENTH STREET, NEW YORK.

## PATELLA HOOKS.

BY JOHN M. WHITE, M.D.,

PLEASANT RIDGE, ALA.

THE accompanying sketch is a modification of Prof. Levis' Patella Hooks.

Two nickel-plated hooks, and a little, hollow rubber cord, are all that are needed to make the instrument. The blunt ends of the two hooks are slipped into the hollow ends of the rubber cord and tied securely with a thread, and this completes the instrument. The rubber cord, instead of Levis' screw arrangement, is much more convenient, besides being more simple,

cheaper, and easier applied. The instrument will adjust itself—will gently and constantly draw and keep the fragments together. (The rubber cord can be made long or short to suit any case.) In its application, the instrument being shorter than the patella, the cord is stretched and the hooks inserted over the fragments; the contraction of the cord then draws and keeps the fragments constantly together. A *set* is required to treat a case of fractured patella, if one will not answer. "They will answer, also, in cases where you do not wish to fasten them into the bony structure, but hook them into two layers of adhesive plaster placed upon the upper and lower fragments, where union had nearly taken place." The set Messrs. Tiemann & Co. sent me were beautifully made, with the proper curve, so they will hold when applied. Rubber pressure, too, may have some advantages.

AN ICE-COOLER on a small scale, but one likely to be very useful in the sick-room, is described by Dr. Rand (*College and Clinical Record*). It consists simply of a cylindrical case of thick paste-board, large enough to hold the tumbler loosely, over which slips an outer closed cylinder, with a button on top. Besides the badly conducting paste-board, there are two strata of included air, which are non-conducting.

# Medical Items and News.

CONTAGIOUS DISEASES — WEEKLY STATEMENT. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending July 23, 1881.

| Week Ending | Typhus Fever. | Typhoid Fever. | Scarlet Fever. | Cerebro spinal Meningitis. | Measles. | Diphtheria. | Small-pox. | Yellow Fever. |
|---|---|---|---|---|---|---|---|---|
| July 16, 1881. | 24 | 12 | 108 | 9 | 44 | 104 | 16 | 0 |
| July 23, 1881. | 19 | 24 | 108 | 8 | 32 | 91 | 26 | 0 |

THE JAPANESE MEDICAL JOURNAL.—We have received from the editor the initial number of the *Jdzo-Shin Bun*, a Japanese Medical Journal, published fortnightly in Tokio, Japan. This is the first of its kind that has been published in the empire, and as far as we can understand from a necessarily casual review of its pages, it contains some "valuable contributions to the science of medicine, and should be in the hands of every working practitioner". who can read the language in which it is written.

SIX MONTHS' DEATHS IN NEW YORK CITY.—The following table shows the actual mortality during the six months ending June 30, 1881, compared with the first six months of 1880, and the number of deaths from the principal diseases:

| | 1881. | 1880. |
|---|---|---|
| Total from all causes | 18,635 | 15,446 |
| Total under one year | 3,873 | 4,177 |
| Under two years | 5,530 | 5,641 |
| Under five years | 7,870 | 6,955 |
| Over seventy years | 1,152 | 1,025 |
| Zymotic diseases | 5,566 | 3,993 |
| Constitutional diseases | 3,936 | 3,447 |
| Local diseases | 7,475 | 6,649 |
| Developmental diseases | 1,085 | 981 |
| Deaths by violence | 586 | 676 |
| Small-pox | 291 | 2 |
| Measles | 268 | 425 |
| Scarlet fever | 1,022 | 206 |
| Diphtheria | 1,114 | 432 |
| Croup | 588 | 387 |
| Whooping-cough | 99 | 150 |
| Typhus fever | 111 | 1 |
| Typhoid fever | 141 | 86 |
| Malarial fever | 266 | 191 |
| Erysipelas | 138 | 129 |
| Diarrhœal diseases | 749 | 1,477 |
| Alcoholism | 114 | 106 |
| Rheumatism and gout | 140 | 112 |
| Cancer | 362 | 338 |
| Consumption | 2,679 | 2,299 |
| Bronchitis | 860 | 639 |
| Pneumonia | 1,981 | 1,653 |
| Heart diseases | 711 | 413 |
| Marasmus and scrofula | 341 | 292 |
| Hydrocephalus and tubercular meningitis | 450 | 255 |
| Diseases of brain and nervous system | 1,703 | 1,455 |
| Apoplexy | 318 | 306 |
| Convulsions | 408 | 381 |
| Meningitis and encephalitis | 450 | 344 |
| Direct effects of the heat | 10 | 58 |
| Bright's disease | 833 | 697 |
| Suicide | 72 | 82 |
| Drowning | 88 | 143 |

BOYLSTON MEDICAL PRIZE.—It is announced that the above prize has been awarded to Herbert W. Page, F.R.C.S., Assistant Surgeon of St. Mary's Hospital, London, for a dissertation on "Injuries to the Back, without Apparent Mechanical Lesion, in their Surgical and Medico-Legal Relations." No prize was awarded for any dissertation on the first

subject proposed for 1881, "The Effect of Drugs, during Lactation, on either Nurse or Nursling."

This is the second time that the Boylston prize has been captured by an Englishman.

The following are the questions proposed for 1882:

I. Sewer Gas, so called (the Gas found in Sewers): What are its Physiological and Pathological Effects on Animals and Plants? An Experimental Inquiry.

The author of a dissertation on the above subject, considered worthy of a prize, will be entitled to a premium of Three Hundred Dollars.

II. The Therapeutic Value of Food Administered Against, or Beyond, the Patient's Appetite or Inclination.

The author of a dissertation on the above subject, considered worthy of a prize, will be entitled to a premium of Two Hundred Dollars.

Dissertations on the above subjects must be transmitted, post-paid, to D. H. Storer, M.D., 182 Boylston St., Boston, Massachusetts, on or before the first Wednesday in April, 1882.

The following are the questions proposed for 1883:

I. Measles: German Measles and their Counterfeits.

II. The Differential Diagnosis of Abdominal Tumors; Especially those Connected with the Genito-Urinary Organs.

THE FIRST CASE OF YELLOW FEVER brought to New York this season was found on the steamer British Empire last week. The patient caught the disease in Havana. It is not expected that there will be much yellow fever here this summer.

THE PRESIDENT'S CONDITION at date of writing (August 3d) showed great improvement over that of a week ago. His pulse has kept between 94 and 100, his temperature has been normal in the morning with a slight rise, not often more than one degree, in the afternoon. Nourishment is well taken, and the patient sleeps without morphine. Quinine continues to be given. The wound has discharged healthy pus, and there have been no signs of obstruction or abscess-forming.

The most interesting event of the week was the attempt to locate the bullet by means of an induction balance, invented by Professor Bell. It is claimed that this apparatus has shown with reasonable certainty that the bullet lies in the front wall of the abdomen, about five inches to the right and below the umbilicus. It was near this place that a large ecchymosis is said to have appeared soon after the wound was first inflicted.

The instrument used for determining the position of the bullet consists of two flat coils about four inches in diameter, and one-half an inch in thickness, of insulated copper wire, a battery, a condenser, an interrupter, and a telephone. The ends of the primary or inducing coil are connected with the poles of the battery, and in the same circuit are a condenser and a small interrupter, whose vibrating tongue opens and closes the circuit with great rapidity. The ends of the secondary coil, in which the current is to be induced, are carried to the binding posts of a Bell telephone. When the connections have all thus been made, the secondary coil is laid on the primary or inducing coil, so that their respective circumferences exactly coincide. The circuit-breaker is then set in motion, and the rapidly interrupted current through the primary coil induces another current of higher intensity in the secondary coil, and as it does so a loud musical tone is heard in the telephone, with which the secondary coil is connected. As long as the current is maintained, and the circumferences of the two coils are kept in exact coincidence, the musical note in the telephone does not change its pitch or intensity. If, however, the experimenter slides the upper coil along an inch or so upon the lower, so that their circumferences no longer correspond, the intensity of the musical tone is diminished, and just in proportion as the centres of the flat coils are separated by a greater or less distance, the intensity of the musical tone is lessened or increased. When the upper coil is pushed over the lower so that they simply overlap, the centre of one corresponding nearly with a point on the circumference of the other, the musical tone in the telephone ceases. If the upper coil be pushed a little further to one side, so that it overlaps still less, the tone is again heard. By delicate manipulation it is possible to adjust the centres of the overlapping coils at such a distance one from the other that a perfect balance is brought about, and when this is the case the telephone makes no sound whatever. The centres of the overlapping coils cannot then be moved either toward or away from one another without causing the telephone to break its silence. When the coils are thus balanced and the telephone is mute, it is found that what may be called the area of coincidence, or in other words, the area of the overlapping parts of the two flat coils, has become highly sensitive to the approach of metal, and manifests its sensitiveness by a low note in the telephone. As long as metal is kept away from this area the telephone remains silent, but if a piece of lead, for example, is brought within a distance of four or five inches from the overlapping parts of the coils, there may be heard in the telephone a faint, but clearly perceptible note, which becomes louder and louder as the metal approaches the sensitive surface and throws the coils more and more out of balance.

Experiments have shown that a leaden bullet will excite a musical tone at a distance of between one and five inches, depending on the shape and size of the bullet.

In every case a very low musical tone was produced when the instrument was placed over the region of the abdomen indicated above. And nowhere else was the noise excited.

TREATMENT OF TETANUS. ISOLATION.—Regarding tetanus as an exaggerated reflex irritability of the spinal cord, provoked by various causes, Dr. Ria imposes strict isolation upon his patients, separating them from friends and relations, removing all possible sources of sensory disturbance, and carefully watching the influence of this treatment. Four cases have been cured. In one instance, chloroform in small quantities was applied externally by means of an atomizer, while to insure rest and slumber small doses of morphine and chloral were administered. In another instance, one-sixteenth of a grain of atropine was added to the chloral. The remaining two cases were treated by isolation and the administration of the bromide of potassium.

THE METRIC SYSTEM.—Dr. J. B. Stair, of Spring Green, Wis., writes: Sir—In answer to what Dr. Eames has said in the RECORD of June 4th, I will only say this: If we desire a system that *is* simply *practical* without being *mathematically* accurate, we had better retain the one we have by all means, for aside from the possible variation in our weights and measures—a condition likely to exist in any system

—our system is certainly not open to the objection of inaccuracy.

It is true that these inaccuracies are of minor importance practically, but if we admit, as Dr. Eames does, the fact of their existence, we also admit the utter fallacy of the great argument with which the system was once urged upon the profession—its exactness.

Despite Dr. Eames' notions to the contrary, I oppose the adoption of the new way conscientiously, and because I yet fail to see any necessity for its adoption. For myself, I can prescribe metrically quite as well as by the American plan, and it appears to me that it is about time those who advocate the metric system should cease to impute ignorance, prejudice, etc., to those who oppose it. Let us exercise less enthusiasm and more common sense.

BILLROTH'S PATIENT, ON WHOM HE FIRST PERFORMED EXCISION OF THE PYLORUS, recently died. The operation took place January 29th, and the patient lived for over three months. A post mortem was made, and it showed that death had taken place from metastatic deposits of cancer throughout the entire peritoneum, the duodenum and jejunum being likewise coated with a similar deposit. The stomach had retained its form, and showed few traces of the operation upon it. The woman had not suffered from any digestive troubles.

There is now, we believe, only one remaining of the patients that have been operated on for cancer of the pylorus.

EXTIRPATION OF THE LARYNX.—In regard to the operation performed by Dr. del Toro, of Cadiz, we have the following data. Laryngoscopic examination revealed a papilliform epithelioma, involving the entire posterior aspect of the epiglottis, the right aryteno-epiglottidean ligament, the right superior vocal cord, and part of the left. An incision was made in the median line, and both superior thyroids, the two linguals, and the left inferior thyroid artery were ligated. A cut was made through the crico-thyroid membrane, and through the cricoid cartilage posteriorly, leaving a circular ring of this cartilage. The body of the os hyoides and the base of the tongue were then extirpated, and the larynx removed. A silver canula was placed in the larynx, and a caoutchouc tube in the œsophagus. The operation was performed on March 9th. The patient continued well until the afternoon of the 12th, when he began to suffer from fever and extreme dyspnœa. He died on the 13th, at five o'clock in the afternoon, in consequence of a pulmonary emphysema—the only lesion revealed by the autopsy.

THE SUMMER CORPS OF TENEMENT HOUSE INSPECTORS during the past week visited 4,791 houses, containing 23,833 families, and prescribed for 1,038 patients, besides distributing free excursion tickets.

THE HEAT IN CINCINNATI.—During the week ending July 16th, there were 264 deaths from sunstroke, and 150 from the effects of the heat. There were 86 deaths from the heat in one day.

ANECDOTES OF SKODA.—In the *Staatszeitung*, Dr. L—— gives a short sketch of the life of the great master, the late Josef Skoda, the son of a locksmith, who was born in Pilsen, in the year 1805. His youth was one of hard struggles. At the age of twenty he repaired to Vienna, to pursue the study of medicine, graduating in 1831. His straitened circumstances induced him to accept a position as circuit physician, during the cholera epidemic in Bohemia, but subsequently he returned to the capital, where he entered the "Allgemeines Krankenhaus" as an assistant. His scientific career dates from this period. As early as 1835, we find him elucidating the mysteries of physical diagnosis to classes of eager students. In derisive allusion to his use of the stethoscope, the higher powers of the hospital conferred upon him the title of "the master with the little post-horn." His immortal work on auscultation and percussion, upon whose principles the diagnosis and management, not only of diseases of the thoracic viscera, but also of wounds of the abdominal organs are based, was ignored by those in authority. He afterward took charge of a newly established department for thoracic diseases. To the professorship he was not appointed until 1847, but long before this he contributed largely to the fame of the Vienna Medical School. From all parts of the world poured in those who were anxious to perfect themselves in auscultation and percussion; even gray-haired doctors condescended to play the student's role once more under Skoda. In 1848, at the founding of the Academie of Sciences, he became a member of the institution. In 1871, ill-health forced him to resign his professorship. Skoda was a man who never sugar-coated his bitter pills, but the public recognized the reliability of his diagnosis and the fact that his blunt manners and his precise way of speaking made him appear harsher than he intended. He remained single all his life; his unbounded love for science crowded out every desire for domestic happiness. When Rokitansky died, Skoda, bowed down with physical and mental pain, accompanied his friend's remains to the grave. "Why must *I* still live?" he said, in his calm but indescribably expressive way, to those who, with heavy hearts, endeavored to console him. Now he also has passed away. Skoda and Rokitansky will be remembered as long as man shall continue to study medicine. Never, in scientific history, have there been found two friends who criticised each other so impartially, and complimented each other's labors as thoroughly as these.

The journal mentioned also quotes several anecdotes about Skoda, some of which are a good index to his character. One day he was invited to dine at court. After having delivered his lectures and attended to his patients, he repaired thither in his customary, well-worn, old-fashioned apparel. "But the Herr Professor might have appeared with a frock-coat," reproachfully intimated the official charged with the reception of the guests. "Well, then," said Skoda, "I'll ride home and send my frock-coat here to dine." Upon another occasion, by ministerial decree, certain changes were to be made in the hospital, the utility of which Skoda denied, in spite of the Burgomaster's opinion to the contrary. "Your Excellency," he said bluntly, "we physicians are the best judges of such things." The angry retort that the government was paying the money, and intended exclusively to control it, was met by the argument that the funds belonged no more to the government than to the medical authorities, but that they were the property of the tax-paying multitude, who looked to the opinion of competent persons as to the disposal of them. Skoda, ever since his student days, was in the habit of attiring himself in exceedingly antiquated style. Decades passed by, but the cut of his "inexpressibles" remained the same, in spite of the bantering remarks of his friends. One day, however, to the great surprise and amusement of every one, the great clinician appeared in an elegant

pair of pantaloons, of faultless style. "As a student," he explained, "I lived with a tailor, who rendered me a good many services, and greatly assisted me, so I always remained his customer. He had his own antiquated notions about cutting goods, but I wore them as they were cut. The poor man is dead now, and *I*—have to wear fashionable pantaloons." For a pain in the foot, Skoda employed a salve prescribed by a colleague. Questioned as to the result of the treatment, he remarked, "Where I applied your salve, the pain was arrested, but where I did not, *it ceased much sooner.*"

PHOSPHATE OF SILVER as a substitute for the nitrate is to be given in doses of one-third to one one-half grain. It is claimed that it does not discolor the skin or produce gastric irritability. It is especially useful in subacute myelitis and scleroses.

ENFORCEMENT OF MEDICAL LAW.—The Board of Censors of the Medical Society of the County of New York is persistent in its determination to eradicate the evil of unlicensed practitioners and prescribing druggists. Action was brought against a certain Louis Widman, who was charged by plaintiffs with falsely registering as a graduate of Breslau, and of the Eclectic Medical College of this city. Although defendant held that he had studied seven months at the latter institution, examination before Judge Smith proved his inability to speak English. The grand jury discharged him, although the Board claims its evidence to have been sufficient to convict. In the case of De Kraft, who is registered as a graduate of the Electro-Therapeutic Institute of Philadelphia, 1868, the defendant swore that he cured by means of electricity and magnetism; this the court held was not practising medicine or surgery in the sense of the statutes. In the third case, one in regard to a prescribing druggist, decision has not yet been rendered.

AN ACT TO REGULATE MEDICAL PRACTICE IN PENNSYLVANIA has passed the State Legislature, and has been signed by the Governor.

The law much resembles that in this State. It compels all persons who are practising or who intend to practise medicine or surgery in Pennsylvania to appear before the prothonotary of the county, show that they have a degree from a legally incorporated medical college, and be registered by the clerk. Persons who have been continuously practising since 1871 will be allowed to register without a diploma. Persons from outside States must have their diplomas examined and countersigned by the dean of some medical college in the State.

Failure to register or registering fraudulently is punishable with a fine of $100, one-half going to the informer, as in this State.

The passage of the law is said to be largely due to the efforts of Dr. R. L. Sibbet, of Carlisle, chairman of the Committee on Medical Legislation.

THE FLUORIDES IN MEDICINE.—Dr. J. M. Da Costa (*Archives of Medicine*) has been making some experiments with the salts of fluorine. Fluoride of potassium, of sodium, and ferrous fluoride were the preparations chiefly tested. The fluoride of potassium was best borne and more used. This was given in doses of two or three grains. It was first given in a case of subacute rheumatism with considerable pain. The pain was considerably relieved without producing drowsiness. Gastric disturbance soon set in, however, and the drug had to be stopped. In other cases of rheumatism like effects were produced.

Reviewing the experiments, Dr. Da Costa says that the fluorides, especially the fluoride of potassium, in large doses are prompt emetics without depressing. They seem to relieve pain without producing sedation or sleep. They cannot be given long without producing gastric trouble. Their most singular effect, which is manifest especially with the iron salts, is the anorexia that is produced even by small doses. It is suggested that they may be of use in bulimia, or to counteract the craving for drink. On the whole, however, it seems unlikely that their therapeutic usefulness will be great.

ACTION AGAINST A "RATIONAL" MEDICAL COLLEGE.—From the *Buffalo Evening News* we learn that an action has been brought against Dr. Samuel W. Wetmore and *confrères* to restrain the College of Physicians and Surgeons, formerly Buffalo College of Rational Medicine from exercising the functions of a medical college. The action was brought to the notice of the State Attorney by the regular and the homœopathic societies of Erie County, and is in the nature of a *quo warranto*. By the former society, through the zealous efforts of whose older members a school of good standing and repute has been established, the above-named institution is held to be a bogus concern. The defendants claim to have been incorporated under the act of 1848, amended in 1871, relative to the formation of benevolent, charitable, scientific, and missionary societies. The complainants hold that no authority is given in these acts for the organization or incorporation of the institution in question. Prior to 1846 medical schools were founded in accordance with the provisions of special acts, but in 1853 a general provision was made for such incorporations, as alleged by the complainants. The Buffalo College of Physicians and Surgeons is not a benevolent, charitable, scientific, or missionary society in the sense of the Act of 1848, but a purely business corporation, operated for pay and profit, exercising the functions of a college of medicine and surgery. Its incorporation is provided for by the statute of 1853, now in force. The case is exciting considerable interest in the medical profession of Buffalo and vicinity.

THE AMERICAN OTOLOGICAL SOCIETY.—At the last annual meeting, held in Newport, R. I., July 26, 1881, the following gentlemen were elected officers for the ensuing year: Dr. J. Orne Green, of Boston, *President;* Dr. J. S. Prout, of Brooklyn, *Vice-President;* Dr. J. J. B. Vermyne, of New Bedford, Mass., *Secretary and Treasurer;* Drs. J. J. B. Vermyne, C. J. Blake, and J. Orne Green, *Committee on Publication;* Drs. John Green, of St. Louis, C. H. Burnett, of Philadelphia, and H. G. Miller, of Providence, *Committee on Membership.*

THE AMERICAN OPHTHALMOLOGICAL SOCIETY.—At the last annual meeting, held in Newport, R. I., July 27 and 28, 1881, the following gentlemen were elected officers for the ensuing year: Dr. H. D. Noyes, of New York, *President:* Dr. William F. Norris, of Philadelphia, *Vice-President;* Dr. Richard H. Derby, of New York, *Secretary and Treasurer;* Dr. J. S. Prout, of Brooklyn, *Corresponding Secretary;* Drs. E. G. Loring, D. B. St. John Roosa, and Richard H. Derby, *Committee on Publication.*

CREMATION.—A crowded meeting was recently held at Bologna, in favor of cremation. The medical profession has taken much interest in it, and it is expected that a crematory will soon be erected.

# Original Communications.

## IMPORTANCE OF THE EARLY RECOGNITION OF EPILEPSY.

An Essay read before the Connecticut State Medical Society, May 26, 1881.

By E. C. SEGUIN, M.D.,

NEW YORK.

(Continued from p. 144.)

The foregoing cases indicate that the error usually committed in judging of the true nature of first epileptic seizures is in considering them to be sympathetic convulsions, due to remediable causes—in other words, eclamptic attacks.

This capital diagnostic error is founded upon two erroneous conceptions, in my opinion:

1. A physiological misconception. In the first two years of life there is great convulsibility; the spinal axis is excessively irritable, and many causes, local, diathetic, and thermal, may produce convulsions. Thus, pneumonia, exanthemata, infantile spinal paralysis, intestinal worms, gastric irritation, gingivitis, sexual irritation, etc., may cause convulsive attacks, which are usually called eclamptic. If the cause be removed, such attacks do not recur. In the third and fourth years of life, more or less rapidly according to the constitution of the child, this mobile state of the spinal axis diminishes, the inhibitory cerebral influence is more and more shown, and the tendency to reflex spasmodic manifestations almost disappears.

The misconception lies in admitting, beyond the truly infantile age (three to four years), a liability to symptomatic or eclamptic convulsions.

There are exceptions, of course—some few children, and even adults (especially females), show convulsibility; but I believe that it may be stated, as a law most useful in estimating the significance of a first fit, that after the third or fourth years eclamptic attacks (except from uræmia) are excessively rare. A first rule for the study of convulsions then is, that convulsibility diminishes rapidly after the third year.

2. An etiological misconception, consisting in overestimating the exciting powers of local, internal, and peripheral causes. The doctrine of reflex neuroses, reflex neuralgia, reflex spasms, reflex paralyses, and of reflex psychoses, has fallen from the very high standing it acquired, mainly under the influence of Brown Séquard, some fifteen or twenty years ago. Reflex diseases of all kinds are now rarely reported by reliable observers, and more especially is this true of paralysis. That there are reflex nervous diseases I recognize, but I claim that they are not by any means so common as is usually believed.

More especially would I maintain this with respect to convulsions occurring after the third year of life. Cases of convulsions, or epilepsy, in individuals above three years of age, due to cuts, blows, worms, adherent prepuce, etc., abound in older medical writings, books, and journals; but in the last ten years physicians have become much more guarded, and such cases, when reported, are considered very interesting because of their rarity. Leaving out injuries about the head, I am not sure that I have met with such a case.

I would suggest, as a second safe rule in studying first convulsions, that, after the third year of life, local irritations, internal or external, are not likely to cause convulsions without the pre-existence of a morbid state of the nervous centres, inherited or acquired.

The terms eclamptic and epileptic as applied to convulsions accompanied by loss of consciousness, have been the source of great confusion. The words are often used as if they designated different symptom-groups, whereas, in reality, as sanctioned by observations and by the best authorities in our art, they mean the same symptom-group, occurring under different conditions.

I might support this statement by numerous citations, and by a minute description of a variety of attacks of each kind; but my time is short, and I will content myself with giving the opinion of a few authorities.

In the first place, Professor Trousseau says:*

"I have often known epilepsy and eclampsia to be confounded one with another, and I have also said that this confusion is almost inevitable, because, if we study only the convulsive manifestations of these two affections, they are indistinguishable.

"If you observe a woman attacked with eclampsia in the eighth or ninth month of pregnancy, or during confinement, or a child who is convulsed, either at the beginning of an eruptive fever or during dentition, however you may be on your guard—however careful you may be in your observations, you cannot make out any [symptomatic] differences between these attacks and the convulsive form of morbus caducus."

Dr. Day, in the recent edition of his excellent work on diseases of children,† quotes with approval Trousseau's statement as to the similarity of eclamptic and epileptic attacks—the latter being the former repeated in a series—and adds, when speaking of eclamptic attacks:

"In many respects they (the convulsions) resemble epilepsy, from which, indeed, they cannot invariably be distinguished."

An encyclopedic treatise on diseases of children is being issued in parts, in Germany, and the opinions of its numerous authors, all men of high standing, will be received with respect.‡

Dr. Otto Soltmann, of Breslau, in treating of epilepsy, says (p. 103):

"The eclamptic attack cannot be distinguished by its symptoms from the epileptic attack."

Nothnagel, an authority upon the subject of epilepsy, writes as follows of eclampsia, in Ziemssen's Cyclopædia:§

"What is there now remaining of what was formerly recognized as eclampsia? Are we altogether justified in still retaining the name? We believe so, and are of opinion that the title of eclampsia should be reserved as the name of an *independent affection*, which, it is true, can at present be defined only by its clinical symptoms. We propose that the designation eclampsia should be made use of for those cases of epileptiform spasms which—independently of positive organic diseases—present themselves as an independent acute malady, and in which, so far as our present knowledge allows us to judge, the same processes arise, generally in the way of reflex excitement, and the same mechanism in the estab-

* Clinique Médicale de l'Hôtel-Dieu de Paris. Seconde édition, vol. i., p. 88. Paris, 1865.

† The Diseases of Children, p. 607, American edition. Philadelphia 1881.

‡ Handbuch der Kinderkrankheiten: Herausgegeben von Dr. C. Gerhardt. Bd. v., Abth. i. 1ste Hälfte: Krankheiten des Nervensystems. Tübingen, 1879-80.

§ Cyclopædia of the Practice of Medicine. Edited by Prof. H. von Ziemssen. American edition. Article on Eclampsia, vol. xiv., pp. 201-2.

lishment of the paroxysms comes into play, as in the epileptic seizure itself. In this way, as we see, *the designation of eclampsia as an acute epilepsy finds greater authorization* [the italics are my own]; at the same time it is distinguished from true epilepsy by the lack of a persistent central change, which latter i npresses upon epilepsy the character of a chronic condition. In the case of eclampsia, where this chronic change is absent, the manifestations, the seizures disappear with the removal of the exciting irritation."

We may sum up these statements of high authorities by saying that eclamptic and epileptic attacks are similar in character and practically indistinguishable.

This being admitted as being true of the *symptoms*, we yet have the two *affections*, eclampsia and epilepsy, to differentiate; and it is this differentiation or differential diagnosis which is all-important for the welfare of our patient. It is not so very serious to consider eclampsia as epilepsy for a few months; but the converse mistake—the one illustrated by the cases I have read, the mistake which I believe is common, is in one sense fatal to the patient. The non-recognition of epilepsy allows of recurrence of paroxysms and the establishment of the epileptic habit.

Upon what grounds can a reasonably accurate diagnosis be made? I believe this can generally be done by attention to the physiological law of convulsibility, and to the relatively small importance of local irritations, internal and external, after the third year of life, as a cause of eclampsia. These two points have already been referred to at some length. A third rule which must be borne in mind is that at almost any period of life uræmia may cause eclampsia. This is more especially true of young subjects who have just passed through scarlatina with nephritis, or who have had symptoms of renal disease from any cause; and also of adults—males between thirty-five and fifty, who are liable to contraction of the kidneys.

A fourth diagnostic rule is that, in adults particularly, syphilis may cause eclampsia (*i.e.*, acute, curable epilepsy).

Plumbism and alcoholism sometimes cause eclampsia, but probably in most cases by producing renal changes and uræmia.

To apply these principles to practice, let us suppose cases of first convulsions with loss of consciousness, occurring in subjects of various ages.

1. Convulsive attacks in young children under three years.

If we can exclude injury to the head, gross organic disease of the brain, and microcephaly from premature closure of the fontanelles, the attack is probably eclamptic. This probability is increased to almost a certainty if we can accurately determine the existence of sufficient systemic or local causes for the attack.

Upon this question of sufficiency of the cause, much might be said. Often the physician is satisfied with merely determining the coincidence of a fit with a local irritation, or a supposed local irritation. Soltmann* is especially emphatic in his advice to judge these coexistent conditions carefully before pronouncing them to be causes, and the attacks to be merely eclamptic.

The occurrence of a single fit enhances the probability of its being the first seizure of epilepsy.

The occurrence of repeated attacks in the course of an hour or two makes it probable that the convulsions are caused by fever, by gingival, gastric, or intestinal irritation, or perhaps by some peripheral cause.

2. Convulsions in young persons from three to fifteen years of age.

These are quite certainly epileptic, if we can exclude renal disease. The occurrence of attacks of an eclamptic nature (*i.e.*, ephemeral and curable) in such subjects from intestinal, or gastric, or sexual irritation, is exceedingly rare, and the mistake—the terrible mistake of assuming such to be the pathology of convulsions, is frequently made, even by experienced physicians.

I would repeat, and the foregoing cases bear me out, that convulsions from worms, from indigestion, from lithæmia or oxaluria, in youth are exceedingly rare, and that in the treatment of such a case the patient should be given the benefit of the doubt and be put upon a rigid anti-epileptic treatment by means of bromides, while the treatment for the supposed local or diathetic cause is being carried out.

3. Convulsions in adolescents and adults.

These are to be judged by the same general rules as No. 2, with the addition that two morbid conditions should be carefully searched for, especially when the first convulsion occurs after twenty.

*a.* Syphilis. This may be acquired at almost any age, but especially after sixteen or eighteen years. Nothing in the social standing of the patient should deter the physician from inquiring delicately, yet deeply, into this question.

*b.* Chronic interstitial nephritis, more particularly in subjects of forty years and upward. The presence of a hard pulse, of over-action and hypertrophy of the heart, the passage of an excessive amount of urine of low specific gravity, sometimes containing albumen (never much), and a few hyaline or granular casts—these symptoms go to justify the diagnosis of contracted kidneys, consequent chronic uræmia, and the recurrence of eclamptic attacks.

If we exclude these two pathological conditions, a convulsion in an adult, especially if a single fit, is quite certainly epileptic, and will be followed by others, after a lapse of time which may vary from a few days to more than a year. Of course the existence of a long interval of health after one epileptic attack in no wise justifies a physician in pronouncing the disease not to be epilepsy, as is shown by some of the cases I have read, and by numerous others which I might cite.

To sum up the early diagnosis of convulsions:

1. After the third year such attacks are very probably epileptic. The possibility of uræmia and of syphilis should be borne in mind, and a careful investigation be made as to their existence.

2. Under the third year the attack may be eclamptic—probably is, but its causes should be carefully judged.

3. In many cases under three years it is well to give a moderate amount of bromide of potassium (or sodium) with regularity for several months after a convulsion, that is to say, in such cases as do not present an evident, indisputable pathological condition sufficient to cause eclampsia.

4. In all cases above three years the bromide treatment should be at once instituted and kept up for many months.

This will not interfere with the treatment by appropriate remedies and by hygiene of gastric or intestinal indigestion, of worms, of sexual irritation, of uræmia, and of syphilis.

* L. c., pp. 49–54.

Besides bromides, a variety of treatment is demanded by different forms of epilepsy, according to the pathological condition; but the consideration of these indications is foreign to this paper, whose main object is to encourage the prompt and proper treatment of epilepsy at the earliest possible moment, viz., in most cases after the first attack.

I am confident that, if this were done, the prognosis of convulsive epilepsy would be greatly changed for the better.

I now pass to the consideration of the diagnosis of petit-mal, consisting of epileptic vertigo (so called), and of imperfect or aborted spasmodic seizures.

In this category I do not include the localized or hemiplegic epileptic spasms, which I have treated of in a former paper.

Petit-mal, or epileptic vertigo is often allowed to pass for vertigo caused by indigestion. In my experience, physicians are very loath to call these slight attacks by the terrible name of epilepsy, and so delude themselves and their patients until the recurrence of a convulsive attack settles the question.

Besides, I find that, even when the attacks are recognized as epileptic, a most unfortunate statement is made that these are slight and manageable attacks, whereas the truth is that petit-mal is much more intractable than grand-mal, and often leads to more evident mental deterioration.

The correct diagnosis of petit-mal is feasible, provided a good description of the seizures be had.

From vertigo it is distinguished by:

1. The subjective phenomena. In vertigo there occurs a sensation as if the patient himself or objects about him were whirling around; in petit-mal there is no such feeling, but a sensation of confusion, or of something rising from the throat or epigastrium to the head. In some cases there are no sensations in the head beyond the consciousness that something is wrong for a moment.

The sensations of petit-mal are, moreover, usually sudden, or even flash-like, whereas in vertigo, cardiac syncope, and some hysterical attacks, there elapses quite a time in which the attack is growing. This suddenness of onset is very characteristic of minor epilepsy.

2. By objective phenomena. In faints and in some hysterical states the patient is limp from the start, and in other hysterical attacks there is spasm lasting many minutes. In petit-mal there is nearly always spasm, but not as in grand-mal. It usually expresses itself by a momentary rigidity of the whole body, with staring eyes and wide pupils. To express it otherwise, there is for an instant an unnatural immobility—the patient is, as it were, petrified for a few seconds. The friends of patients will usually accept the suggestion that the patient is statue-like in the attack.

It is to be borne in mind that in some cases the patient keeps his equilibrium, or even continues to walk. Nearly always, however, the action which the patient was doing at the moment (eating, talking, walking) is impeded or interrupted, to be resumed naturally after a few moments.

Some of these attacks of petit-mal are literally like a flash—just a moment's obscuration of consciousness. The consciousness is wholly lost in the various forms of petit-mal, though many patients will claim the contrary. The truth is usually easy to learn from the patient, or friends of the patient, and is at once evident if you happen to witness a paroxysm. I am in the habit of not relying upon an epileptic's statement that he is conscious during an attack, without sufficient corroborative testimony.

The dilatation of the pupils and their immobility, and the open state of the eyes, are capital symptoms.

In syncope and hysteria the eyes are closed and the muscles limber. The eyes in hysterical "faints" present an almost pathognomonic appearance; they are rather tightly closed, and present vibrations or quivering motions due to the prolonged effort at closure. In neither of these conditions is the pupil fixed and widely dilated, as in epilepsy; this is a symptom which cannot be imitated.

Vertigo from gastric disorder is characterized by a sense of whirling in the head, and often a sensation as if the ground were opening in front of the patient, or falling away from before him, with impending precipitation. The observer notices no dilatation of the pupils, or staring, or momentary stiffness of body; the patient can speak at any time. In severe cases the vertigo is very frequent and is produced by the least motion.

I cannot enter fully into a description, for diagnostic purposes, of each and every variety of petit-mal. This would take a long time.

Allow me to refer to the intermediate attacks, in which there is some jerking of one of the limbs, or in which the patient says or does something odd. In some cases the patient will rise suddenly from a chair, walk rapidly about, muttering something. In other cases the patient will lie back in his chair with the epileptic facies, and jerk both arms or the limbs on one side of the body for a few moments. In other cases, the patient being out of doors walking in the street, loses himself for a few blocks, and is surprised at his change of location. In other cases there may be incoherent or semi-coherent talking. Other patients simply stare and make swallowing movements, with or without drooling. Other patients fumble and fuss about with their hands, while staring and unconscious.

The unconsciousness and the attendant pupillary phenomena are the chief diagnostic symptoms in these cases; but a very important element in the differential diagnosis between these attacks and hysterical ones is that the latter present variations each time, whereas the mixed epileptic seizure is almost a stereotyped performance, one or two sets of movements being done by the unconscious subject.

Still other cases of non-spasmodic epilepsy occur in the shape of periodic or paroxysmal attacks of mania or melancholia. In some of these cases the careful observer finds that a nocturnal fit or an unobserved diurnal paroxysm ushers in the psychosis; but in other cases the mental disorder appears in a periodic epileptoid manner, and convulsions or petit-mal make their appearance later on.

I have already given it as my opinion, or rather as the summary of my experience, that petit-mal is often ignored for years, and is usually looked upon as a trivial affection.

It is my present purpose to urge the early recognition and careful treatment of this seemingly insignificant symptom. It appears to parents, and too often to physicians, as infinitely less serious than grand-mal or fits; yet I can assure you that the contrary is true.

Petit-mal, especially the flash-like form, is exceedingly rebellious to treatment. I have now several little patients who continue to have several "turns" a day, despite the use of as much bromide, etc., as their systems will bear. I have repeatedly had to produce severe bromism in order to barely control these

minor forms of epilepsy, and any reduction of the medicine to a safer dose was followed by a return of symptoms. In taking charge of a patient who has such petit-mal I always explain to the parents or relatives the difficulty of the task they have brought to me. In my experience, spasmodic attacks—even the most severe fits—can nearly always be controlled by a proper dosing of the bromides—they may also be suspended for months and years; but we have little control of the minor manifestations of the disease.

Still, in all forms of epilepsy the date of its recognition as epilepsy is an all-important factor in prognosis. By repeated seizures a condition of the nervous system (epileptic centre?) becomes established, which we designate as the epileptic habit, a condition which explains the remarkable fact that in some cases of symptomatic or reflex epilepsy the attacks continue after removal by surgical means of the morbid focus whence the attacks seemed to be produced.

By instituting treatment very early, if possible after the first or second attack, we eliminate this factor, and the chances of cure are greatly increased.

## OSTEOTOMY FOR GENU VALGUM.*

By C. T. POORE, M.D.,

SURGEON TO ST. MARY'S FREE HOSPITAL FOR CHILDREN, NEW YORK.

Section of bone for the correction of deformities of the lower extremities is not a new operation. It was performed in 1826 by Barton, of Philadelphia, for bony anchylosis of the knee-joint, but with an open wound; and Langenbeck, in 1852, performed a subcutaneous osteotomy of the femur for an anchylosis at the hip-joint, the section being made with a saw. In 1854 he performed a similar operation for rachitic deformities of the legs. Meyer, in 1851, divided the femur and tibia with a chain-saw, for the correction of an aggravated case of genu valgum. In May, 1876, Mr. Ogsten performed the operation that now bears his name, for the relief of genu valgum. Since then, osteotomy for this deformity has met with great favor among English and German surgeons, while in France it is scarcely ever practised, where osteoclasis has many advocates. In 1871 Delore practised forcible straightening of the limb, causing a separation of epiphysis of the femur or tibia, and within the past year Collin has devised an apparatus to accomplish the same end; it is said to do this with great precision. Delore's operation has failed to gain any advocates in England. In this country it has been attempted several times, but, I believe, with doubtful results.

Osteotomy for genu valgum was first performed in this country by Dr. Fowler, of Brooklyn, and since then by several members of this society. A discussion of the pathology of genu valgum is foreign to the object of this paper.

It is assumed that knock-knee is due to changes taking place in the plane of the condyles of the femur or head of the tibia, so that, in the former class, the internal condyle occupies a lower position than in the normal limb; that this is caused either by a bend in the lower third of the femur, by a true lengthening of the internal condyle, or by an atrophy or flattening of the external condyle—in the latter class similar changes may take place in the articular end of the tibia; and finally, changes may be found in the terminal ends of both bones. It is also assumed that the remote cause of the changes mentioned above, at least in children under ten years of age, is a rickety condition of the bones of the skeleton; and from the statement of Mr. Macewen, genu valgum coming on during adolescence may, in some cases, have a similar cause. Whether all cases belonging to the latter class are due to rickets, further observation must determine. I may add that, in a careful examination of nearly one hundred cases of this deformity, I have found but one case in which undoubted symptoms of rickets did not exist.

Having referred to immediate cause of genu valgum, the practical question to be solved is, how can this deformity be relieved? and is there any limit to the period at which we may hope to correct the deformity by mechanical means? Without going into the question of orthopedic appliances, it may be said that, while the bones are soft—before that ossification peculiar to rachitic bones has taken place—correction can be made; if, however, this period has passed, or we fail to make any impression upon the deformity within a few months, splints are worse than useless, and our only resource is in osteotomy. There have been seven cutting operations devised, namely:

*First.*—A section below the tubercle of the tibia (Shede).

*Second.*—A section of the internal condyle with a saw, the joint being entered (Ogsten).

*Third.*—A section of the internal condyle with a chisel, the joint not being necessarily entered by the instrument, but probably fractured into (Reeves).

*Fourth.*—The removal of a V-shaped piece from the internal condyle, its apex being directed downward and outward (Chiene).

*Fifth.*—A section of the shaft of the femur just above the epiphyseal line (Macewen).

*Sixth.*—A section of the shaft of both femur and tibia (Barwill).

*Seventh.*—A section of the shaft of the femur from the outside (Taylor's).

Of these operations, I have personal experience in only two, namely: the division of the internal condyle with a chisel (Reeves's), and the section of the shaft of the femur from the inner side (Macewen's). Mr. Reeves performs the operation in the following manner: an oblique incision is made above the inner tuberosity of the femur, down to the bone, a chisel is introduced, and the internal condyle separated down to the cartilage; the limb is then forcibly straightened. The object of the operation is to make a section of the internal condyle in a line running from a short distance above the epiphyseal cartilage to the inner side of the intercondyloid notch, the line being as near the perpendicular as possible; otherwise the partially detached bone will not slide up readily, and difficulty will be experienced in making the correction. The operation aims to plant the condyle higher up, and thus make its lower tip correspond to its position in the normal limb. The articular surface of the femur is left irregular. This, in some cases, at least, is afterward filled in with osseous and fibrous tissue. I have performed, or attempted to perform, this operation in five limbs: once successfully, once partially so, and in three I failed to make the correction.

It is evident that, in order to be able to slide the internal condyle up, it must be freely divided,

* Read before the New York Surgical Society, May 10, 1881.

and that the ligaments holding the tibia in apposition to the external condyle must be not only unrelaxed, but sufficiently strong not to stretch during the bending inward of the tibia, which must be used as a lever to cause the displacement of the partially detached condyle. In the three limbs on which I failed to displace the condyle, the external and crucial ligaments were so altered that they permitted the tibia to assume its normal position without making any impression on the position of the condyle, and I was deceived by this apparent correction. Again, it is not an easy section to make, and it is difficult to know just where the cutting edge of the chisel is, and from this fact it takes longer to complete the operation. In cases where the internal condyle is very much lengthened (as in the palm I now show, taken from a case recently operated upon), the condyle would have to be so much displaced, in order to correct the deformity, that the articular surface of the femur would be very uneven, and I would fear the functions of the joint might be seriously crippled. There is no question but that Reeves's operation, in cases not very marked, has given excellent results. In my first case, the deformity was completely overcome, and the functions of the joint perfect. I think, also, that the limb can be used earlier than after any other operation. While, therefore, the theory on which Mr. Reeves based his operation would seem, in some cases, to be correct and the more perfect, yet they are outweighed, I think, by the difficulty mentioned above. I have, therefore, in my last twelve cases, abandoned it, and adopted that of Mr. Macewen, of Glasgow, which he describes as follows: the limb having been rendered bloodless, laid in an extended position on a sand-pillow, and with strict antiseptic precautions according to Mr. Lister's method, an incision is made down to the bone, at a point where the two following lines meet: one drawn transversely a finger's-breadth above the superior tip of the external con-

FIG. 1.

FIG. 2.

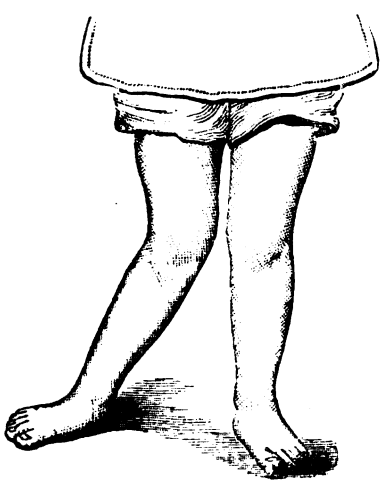


FIG. 3.

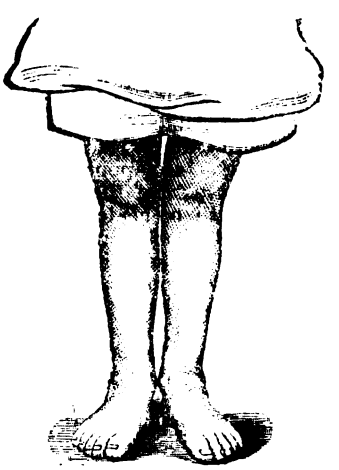


FIG. 4.

dyle, and a longitudinal one drawn half an inch in front of the adductor magnus tendon, the incision is made sufficient to admit the largest osteotome and the finger, if the operator desires it. Before withdrawing the knife, the largest osteotome is slipped by its side until it reaches the bone. It is then turned at right angles to the long axis of the limb, and the instrument is made to penetrate the bone. After the inner portion of the bone is divided, a finer instrument may be slipped over the first, which is then withdrawn, and a third, if necessary, may take the place of the second, when the outer portion of the bone comes to be divided. After penetrating the inner, anterior, and posterior portions of the bone, and the operator thinks that sufficient of the external shell has been divided, the osteotome is laid aside, and the wound covered with a sponge saturated with a one to forty watery solution of carbolic acid, the point of section is grasped with one hand, the leg with the other; using the latter as a lever, it is jerked if the bone is hard, or bent slowly if the bone is soft, in an inward direction, when it will snap or bend, as the case may be. After bandaging the sponge over the wound, the webbing is removed and the other limb operated upon. Before dressing, he ascertains whether any cellular tissue is so prominent as to protrude beyond the lips of the wound. If this is the case, it is excised, as he thinks that it will prevent the wound from healing by an organized clot, and will favor suppuration. Lister's dressings are then applied, and the limb placed in a kind of fracture-box, its outer portion extending up to the third or fourth rib.

If the temperature keeps normal, and there is no pain in the limb, it is left undisturbed for a fortnight, and is then placed in a well-padded splint for several weeks longer. He thinks that ten weeks are necessary from the time of the operation until the patient is able to walk freely. The object of the operation is to divide the shaft of the femur above the epiphyseal line with an osteotome, the form of the incision in the bone being wedge-shaped, with its apex directed outward, the bony tissue on either side of the cutting instrument being condensed by the shape of the chisel. If the deformity is not great in straightening, the two sides of the V-shaped cut are simply brought into apposition and no hiatus is left on the outer aspect of the limb; if, however, much correction has to be made, the outer portion of the shaft is made to contribute to rectify the deformity, and an angle is left with its apex directed inward. The aim of the operator in the after-treatment of the case is to obtain immediate union of the cutaneous wound—in other words, to convert the compound into a simple fracture, and to retain the limb in its corrected position until firm bony union has been obtained.

I have been rather minute in describing Mr. Macewen's method of operating and mode of treating the wound, because I find that certain rules may be abandoned without any detriment to the patient, and with much comfort and advantage to the operator.

*And first*, in regard to the use of the spray: so far as my experience goes, I cannot see that it in any way contributes to the immediate closing of the wound, or to the freedom from suppuration. I have performed seventeen osteotomies for genu valgum: one, strictly antiseptic, the wound was reduced to a mere ulcer on the seventh day; there was slight suppuration. In sixteen osteotomies done without the spray, the wound being kept damp in some cases with a one to forty carbolized water solution while operating, and after completing the section syringing it out with a one to forty solution of carbolic acid, in four cases (eight limbs) where the wound was examined on the third day, in seven the wound was closed, and in one case there was slight suppuration. Of the remaining, two limbs were not looked at until the splint was finally removed; the wounds were found closed and showed no mark of having suppurated. Two were opened on the fifteenth day, two on the twelfth, and two on the seventh. In only one of these was there considerable suppuration, to which reference will be made later. Thus, in sixteen limbs operated upon without the spray, the wounds may be said to have closed in all but three limbs by the third day. In regard to the temperature, in only one case was it above 99.5° during the two weeks, and then it rose to 102° for one evening in two cases—no cause could be assigned for it. I may add that in osteotomy for bow legs, I have very often seen the temperature suddenly rise to 102° or 103° during the latter part of the second or beginning of the third week after the operation, and as suddenly go down, for which no cause could be found. From some remarks of Mr. Macewen I infer that a rectal temperature of 101° is seen in some cases.

*Second.*—Mr. Macewen operates with the limb in an extended position. In all my operations the leg has been strongly flexed and the thigh rotated outward. I think that one can get at the bone easier, and obtain a firmer bed to place it on. There is another advantage, that after the section, then the limb is extended, the tissues between the skin and bone slide forward and shut off the point of section in the femur from the cutaneous wound. Thus, in case suppuration should take place, it is subcutaneous. The ridge of bone running from the tubercle for the attachment of the tendon of the adductor magnus backward and upward, I think, is an easier point to cut down upon, and a better landmark for the longitudinal incision than "a point half an inch in front of the adductor magnus tendon." The suggestion of Mr. Macewen, to remove with scissors any piece of cellular tissue or fat that may protrude between the edges of the wound in the skin, is a valuable one, and upon this alone, it seems to me, depends the rapid closing of the cutaneous wound and the freedom from suppuration. In those cases where I have had suppuration I neglected to take this precaution, and I attribute the tardy union to this cause. A piece of adhesive plaster about one-half the width of the wound, and several inches long, I have placed over the incision to better approximate the edges. I have used it in my later cases, and I think it has been an advantage in aiding immediate union. This gives sufficient room on either side to allow the escape of any collection of blood that might do harm. Mr. Macewen seems to think that in his case the wounds were closed by an organized clot of blood—in other words, by plugging. I think that in those cases where I got early union it was by perfect coaptation and absolute rest. It does not seem probable that a clot of blood would become "organized" by the third day. After having completed the section of the second limb, I syringe out the wound in the first limb with a one to forty watery solution of carbolic acid, apply the adhesive plaster, and over this a compress of Lister gauze about three inches square, then a bandage, and over this a plaster-of-Paris splint extending from the foot nearly to the perineum. The limb is then held in a

straight position until the plaster has hardened, after which the patient is put to bed. On the third day I cut a fenestra over the point of incision, remove the compress, and look at the wound. I do this because in one case I had quite an extensive abscess, subcutaneous, extending upward from the point of section as far as the upper third of the thigh, and this without any elevation of temperature to mark its advent. It did not connect with the bone. My explanation of its formation is as follows: there was a small piece of tissue protruding from between the lips of the wound; against this was the compress. Suppuration, slight at first, took place, but the gauze, being full of dry blood, did not absorb it, but rather dammed it in. It then increased, separated the lips of the wound, and then dissected a cavity for itself, as mentioned above.

In those cases where the bone is very hard, or where the deformity is marked, it will be impossible to make the correction without a complete fracture of the bone, and in these cases care should be taken in putting the limb up that there is no lateral displacement of the fragments. I noticed this condition in one of my cases. In one case I had to make a section of the tibia just below the tubercle, in addition to the section of the femur. The hemorrhage from an osteotomy is slight. After putting up the limb there is generally enough oozing to come through the plaster-of-Paris bandage and discolor it. I have never used any drainage. There is not much pain after the operation; the patients are generally sitting up in bed on the following day. Those cases where there is much relaxation of the ligaments about the knee-joint are not as favorable ones for osteotomy as those in which this condition does not exist. In all my cases, after a Macewen's operation, that are up, the patients are able to stand with the malleoli touching. A sufficient time has not elapsed in my own cases to determine the permanency of the cure.

In order to add further proof to the statement that the spray gives no additional protection against suppuration and elevation of temperature, I would like to record the fact that, in thirty osteotomies on the tibia and fibula, twenty-six of which were performed without the spray, in only three or four have I had any suppurations, and the temperature has kept about normal.

The accompanying cuts are from photographs of patients presented to the society at the time of reading the paper; they show the results obtained by the operation, and exhibit the amount of deformity.

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A Case of Prolapse of the Female Urethra.—A case in which this rare condition was found is reported by Dr. James Hudson, of New Zealand, in the *British Medical Journal*. The patient was a married woman, thirty years of age, who suffered from incontinence of urine. The prolapse was very marked. It was reduced with the finger, and the urine drawn off for several days. Pieces of the mucous membrane came away. Cicatrization took place, and the patient had no further trouble.

Hamamelis has long been a popular domestic remedy, and is being much used by the profession. Internally, in bleeding piles, it is very efficient. As a local application, in irritable and inflamed external piles, it has no equal, according to Mr. Netherclift. It is also a most useful wash for old ulcers.—*British Medical Journal.*

## LOCATION, AGE, AND SEX IN POTT'S DISEASE OF THE SPINE.*

By HENRY LING TAYLOR, Ph.D., M.D.,

NEW YORK.

"Pott's Disease" is a name sometimes given to a carious ulceration of the vertebral bodies and their intervertebral disks, which often goes on to extensive destruction of these parts, and consequent angular deformity.

I propose to study the comparative frequency of occurrence of this disease in the several regions of the spinal column by an analysis of the records of several hundred cases in the private practice of Dr. C. Fayette Taylor, of New York.

It is at once conceded that the only absolutely accurate way to determine the location of a spinal caries is to rely on post-mortem findings, but unfortunately the number of accurate autopsies is too small to give trustworthy results. It is obviously a somewhat rough method to count the projecting spines and assume a caries of the corresponding vertebræ, as the morbid process must commence before there is any projection, and with a given deformity the disease may extend beyond the projection both upward and downward.

These objections, however, are more apparent than real, for the few cases which are observed before there is any spinal projection either go on to have deformities, which enables the observer to locate the disease, or are not reckoned at all in a table of localization, and, being as apt to occur in one region as another, do not affect the result. We must also remember that only a moderate length of time is necessary, after the first appearance of rational signs, to bring on a modification (bulging or flattening, according to the region) of the normal spinal contour readily appreciable to the practised eye.

In regard to the second source of error—the extension of the caries beyond the limits of the deformity—we can only say that it will affect the result more as to the number of vertebræ involved, making it too small, than as to the locality; though, as the disease has a tendency to spread downward rather more than upward, the average resulting location might be somewhat too high.

The main point after all is: Does the apex of the spinal projection indicate with tolerable accuracy the centre of the focus of disintegration? I think that an appeal to the post-mortem table and to dried specimens will show us that the correspondence is close enough to make statistics based on a physical examination of the living body of value in this connection.

As these records were made at the beginning of treatment, and the cases came in every stage of the disease (with perhaps an average duration of from eighteen months to two years), the question arises: What will be the effect on our results and conclusions, of tabulating all together?

Reflection shows that, if we considered only the beginning cases, where the trouble was confined to one or two vertebræ and found a marked preference for certain regions, this would be more distinctly indicated in the figures than in an analysis of cases which had progressed farther in their disease—we will say to spontaneous cure. The most obvious difference would be in the number of vertebræ in-

* Thesis submitted for graduation to the Faculty of College of Physicians and Surgeons, New York, May, 1881.

volved. My statistics covering, as they do, a mean between these two extremes, ought to give an intermediate result.

I found in the records the results of examination stated in two ways: either the region only was given, or the individual vertebræ were specified. I recorded these two sets of cases separately, and made note of the region in those cases where the vertebræ were given.

In order to check my work, I made separate tables of the first and second halves of the cases, in the order in which they were recorded.

I found three hundred cases of Pott's disease recorded, where a diagnosis as to the individual vertebræ involved had been made.

I append the result of classification in the following table (I.), the first two columns being the separate tabulation of the first and second one hundred and fifty cases, as a check; the third, the combined result.

TABLE I.

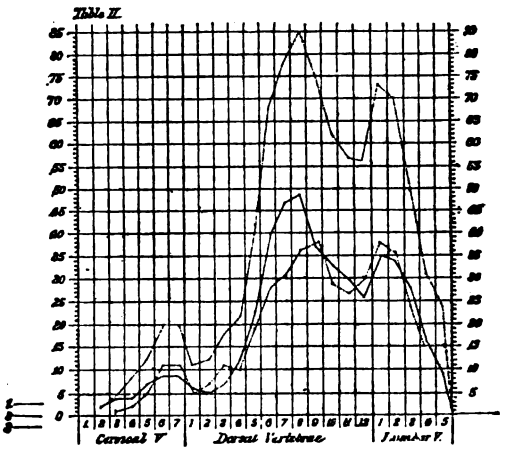
| Vertebræ. | | 1. Vertebræ affected in first 150 cases of Pott's disease. | 2. Vertebræ affected in second 150 cases of Pott's disease. | 3. Vertebræ affected in 300 cases of Pott's disease. |
|---|---|---|---|---|
| Cervical: | 1 | — | — | — |
| | 2 | — | 2 | 2 |
| | 3 | 1 | 4 | 5 |
| | 4 | 2 | 4 | 6 |
| | 5 | 5 | 7 | 12 |
| | 6 | 11 | 9 | 20 |
| | 7 | 11 | 9 | 20 |
| | | Total cervical. 30 | 35 | 65 |
| | | | | Average, 9. |
| Dorsal: | 1 | 5 | 6 | 11 |
| | 2 | 7 | 5 | 12 |
| | 3 | 11 | 7 | 18 |
| | 4 | 10 | 12 | 22 |
| | 5 | 19 | 23 | 42 |
| | 6 | 28 | 40 | 68 |
| | 7 | 31 | 47 | 78 |
| | 8 | 36 | 49 | 85 |
| | 9 | 38 | 37 | 75 |
| | 10 | 29 | 33 | 62 |
| | 11 | 27 | 30 | 57 |
| | 12 | 30 | 26 | 56 |
| | | Total dorsal...271 | 315 | 586 |
| | | | | Average, 49. |
| Lumbar: | 1 | 38 | 35 | 73 |
| | 2 | 36 | 34 | 70 |
| | 3 | 24 | 27 | 51 |
| | 4 | 15 | 16 | 31 |
| | 5 | 15 | 9 | 24 |
| | | Total lumbar..128 | 121 | 249 |
| | | | | Average, 5.0. |
| Lumbo-sacral articulation... | | | 1 | 1 |
| Total vertebræ affected.....429 | | | 471 | 900 |
| | | | | Average, 37½. |

It will be seen that the correspondence between Columns 1 and 2 is very close, not only in the totals for the different regions, but also in the individual vertebræ, showing that the number of cases is large enough to serve as a basis for generalization.

The discussion of these results will be facilitated if we translate Table I. into the graphical language by constructing curves (one for each vertical column of figures) whose abscissæ shall correspond to the vertebræ, and whose ordinates shall represent the numbers in the table (1), in degrees of an arbitrary scale.

In Table II. I have constructed such curves. The interrupted line (1) corresponds to Column 1 of Table I., the continuous black line (2) to Column 2, and the red line (3) to Column 3. We have thus presented to the eye, for comparison at a single glance, the results of Table I.

It will be seen that Curves 1 and 2 coincide as regards all their well-marked features, so that we




may at once proceed to the consideration of their combination—Curve 3, which we may call the curve of liability in Pott's disease.

The curve ascends from the second cervical to the sixth and seventh cervical, falls to the first dorsal, rapidly rises again to the eighth dorsal, falls to the eleventh and twelfth dorsal, rises to the first lumbar, and finally falls to the lumbo-sacral articulation.

In plain language, in three hundred cases of Pott's disease every vertebra in the spinal column was several times diseased (except the first cervical, and it is conceded that the diagnosis of the exact seat of the disease in the upper two to three cervical vertebræ is attended with considerable difficulty).

Further, there are three centres of maximum liability to the disease: one at the sixth and seventh cervical vertebræ, about one-third the size of the two succeeding; one extending from the eighth dorsal vertebra as a centre a short distance up and down; and one of nearly equal magnitude at the first and second lumbar.

Besides the two extremities of the spine, there are two loci of least liability, viz., at the first to the fourth dorsal, and at the eleventh and twelfth dorsal.

That the curve is a continuously progressive one, gradually rising to its maxima and descending to its minima, is a strong confirmation of the value of the results; for, if it were very irregular, rising and sinking very suddenly between adjacent vertebræ, it would suggest the suspicion that the method of diagnosis was too defective, or the cases too few to admit of generalization.

Referring to Table I., we find that there were in 300 cases of Pott's disease 65 cervical, 586 dorsal, and 249 lumbar vertebræ involved, making 900 vertebræ in all, or an average of three to each case. As before remarked, these cases were examined at varying periods of the disease, the average previous duration being perhaps eighteen months to two years. The average liability of a cervical vertebra, in 300

cases, is 9 (got by dividing the number of cervical vertebræ diseased in 300 cases [Table I.] by the number of cervical vertebræ, 7). Similarly, the average liability in the dorsal region is 49, and in the lumbar 50; these figures are to each other nearly as 1 : 5 : 5.

Let us now discuss the different regions as a whole, without reference to the individual vertebræ. Here, as before, in order to check the work, I made separate notes of the first and second half of the cases, which, including the three hundred cases already given, were three hundred and sixty-four in number.

TABLE III.

A.

| Region diseased. | 1. In first 182 cases of Pott's disease. | 2. In second 182 cases of Pott's disease. | 3. In 364 cases of Pott's disease. |
|---|---|---|---|
| Disease in cervical region. | 21 | 22 | 43 |
| Disease in dorsal region .. | 122 | 107 | 229 |
| Disease in lumbar region.. | 73 | 76 | 149 |

Of the above, some had the disease in more than one region, as follows:

B.

| Region diseased. | 1. In first 182 cases of Pott's disease. | 2. In second 182 cases of Pott's disease. | 3. In 364 cases of Pott's disease. |
|---|---|---|---|
| Both cervical and dorsal... | 5 | 6 | 11 |
| Both cervical and lumbar.. | 3 | — | 3 |
| Both dorsal and lumbar ... | 24 | 17 | 41 |
| Cervical, dorsal, and lumbar | 1 | — | 1 |

Section B of this table is included in A, and cases which have the disease in more than one region are noted *once for each* region in Section A.

Here again we note the very close correspondence between Columns 1 and 2 of the table (III.), showing that these results are the expression of a general law. If we divide as before (p. 176) the numbers in Column 3 (Table III.) by the number of vertebræ in the corresponding region, we shall get the average liability (in 364 cases) of a single vertebra. We thus obtain the numbers 6, 19, 29, or approximately 1, 3, 5 as the expression of the relative liability to the disease of any single vertebra in the cervical, dorsal, or lumbar region respectively. The corresponding numbers obtained from Table I. (vide p. 176) were 1 : 5 : 5. These numbers agree very well, as it is only possible for them to coincide when the number of vertebræ affected in one region does not differ from the number in any other; but observation shows us what these figures indicate, that if the disease is in the dorsal region the number of vertebræ involved is usually considerably greater than when it is in the cervical or lumbar. This is explicable on mechanical principles.

To sum up our results in a word, we have the liability to the disease increasing from the extremities to the middle—eighth dorsal vertebra—of the spinal column; with breaks only at the upper—first, second, and third—and lower—tenth, eleventh, twelfth—dorsal vertebræ.

Can we assign any reason for the greater immunity of the vertebræ at the extremities of the spinal column and of the dorsal region?

Let us assume, for the present, that traumatism is the most important exciting cause of Pott's disease, and see if a discussion of the mechanics of the spinal column on this hypothesis will throw any light on the question.

On examining a side view of the spinal column such as that shown in Holden's "Osteology" * (Plate VI.), we find, as is well known, that the spine is concave backward in the cervical and lumbar regions, convex backward in the dorsal. It will be easily admitted that the dorsal convexity is the most vulnerable district in the spinal column for blows from behind and falls backward; moreover, being connected with the sternum by the ribs and their cartilages, it is possible, though very improbable, owing to the elasticity of these structures, that violence applied in front and at the sides might be transmitted to the bodies of the vertebræ to which they are attached. Moreover, the cervical and lumbar regions, besides being withdrawn from violence by their concavity, and having no osseous connections which could transmit violence inflicted anteriorly, are well covered with a thick, muscular pad, and the upper cervical and lower lumbar are materially protected by adjacent osseous structures—the former by the jutting occiput, the latter by the sacrum and iliac crests.

There is, however, another important factor, namely, the pressure of the superincumbent mass, which rapidly increases as we go downward, and which would render many kinds of violence, as that transmitted from below in jumping, and falls on the limbs and ischia, much more effective in lower than in the upper regions of the spinal column. This would tend to neutralize the advantage which the lumbar region enjoys by its position, but would add to the immunity of the cervical region. It is interesting to find that the most prominent (and hence most exposed) part of the dorsal region, as shown in Holden's plate (VI.), corresponds exactly with the region of maximum liability in the table, namely, the seventh and eighth vertebræ.

In regard to the greater immunity of the upper and lower dorsal vertebræ than those adjacent, we find that the former are protected by the prominent scapular masses on either side, which operate to ward off direct violence; and further, that the upper extremity is not firmly connected with the vertebral column, as is the leg; on the contrary, blows and falls on the shoulder tend to explode on the clavicle and sternum.

The immunity of the lower dorsal vertebræ is not greater than we should suppose, from considerations already given, but is accentuated by the very great liability of the upper lumbar vertebræ. Can this greater liability not be explained by the fact that at this point is the great natural hinge, so to say, between the upper and lower halves of the body?

That this hinge does exist can be seen from the character of the dorso-lumbar articulations, which is more enarthrodial than any others in the spinal column, and from the great stiffness of the dorsal articulations.

The strain comes there (upper lumbar region) in lifting and carrying heavy loads, in wrenches and all sorts of violence, where the upper and lower halves of the body act as two distinct masses hinged together, as in wrestling, etc.

These considerations, I think, coincide very beautifully with the ascertained liability to Pott's disease, deduced from statistical analysis, and at the same time greatly strengthen the growing belief in its traumatic origin in the majority of cases.

My table contains no cases of carious disease of

* Luther Holden: Human Osteology. Fourth edition. London: John Churchill & Sons, 1869.

the atlas; but since the table was constructed a case of atlo-axial disease has come under the care of Dr. Taylor, and in the MEDICAL RECORD of November 13, 1880, may be found the report of an autopsy on a case of occipito-atlantal disease. In Holmes' "System" * (vol. iv., p. 140) will be found a cut of a specimen of atlo-axial disease. In my table is included one case of sacro-lumbar disease; so that we may safely say that the entire spinal column is liable to this disease.

Surgical authorities generally indicate the dorsal region as most liable. Erichsen† gives the middle dorsal; Bryant,‡ the lower dorsal; Gross,§ the second, third, and fourth dorsal, and also believes that the cervical vertebræ are more frequently affected than the lumbar. Holmes * makes no statement in regard to location, nor do most of the treatises of specialists, such as Lee,‖ Shaffer,¶ Sayre,** etc., so far as I have been able to discover.

Bampfield's†† classic monograph, almost the first ray of light since Pott's work, is defective on account of his topographical classification of spinal deformities. He gives (p. 142) the three to four lumbar as the favorite seat of an "angular projection," but states (p. 16) that curvatures of the spine, in which he includes "lateral curvature," most commonly occur in the dorsal region. Kormann‡‡ is silent on this point. Taylor§§ says (p. 6) that "the relative frequency in the three regions varies only a little."

I will conclude by briefly considering age and sex as a modifying element in Pott's disease.

*Age.*—In 375 cases of which the ages are given, I found the following distribution of ages at the beginning of their disease, or rather at the time when the first symptoms were noticed. I separate, for comparison, the first 200 and the last 175 cases.

TABLE IV.

| Age at which first symptom appeared. | 1. Out of 200 cases. | 2. Out of 175 cases. | 3. Out of 375 cases. | 4. Number of persons living in 375. |
|---|---|---|---|---|
| Under 5 years. ..... | 119 | 107 | 226 | 54 |
| From 5 to 10 years..... | 40 | 28 | 68 | 47 |
| " 10 to 15 " ..... | 10 | 14 | 24 | 47 |
| " 15 to 20 " ..... | 9 | 11 | 20 | 39 |
| " 20 to 30 " ..... | 10 | 6 | 16 | 65 |
| " 30 to 40 " ..... | 9 | 4 | 13 | 47 |
| " 40 to 50 " ..... | 3 | 4 | 7 | 34 |
| Over 50 years ..... | .... | 1 | 1 | 42 |
| | 200 | 175 | 375 | 375 |
| There were under 2 years.. | 39 | 38 | 77 | 21 |

In Column 4 of the table (IV.) I have added, for comparison, the number of persons that would be living at each period out of 375, as calculated (from the total population of the United States) from Table XXII. of vol. ii. of the "Ninth United States Census Report."

We find from the table (IV.) that it is only under ten years of age that the number of cases of Pott's disease exceeds that of people at that age, taken at random from the population. We find that of 375 cases 226 were under five years of age when the disease began, while 149 were over that age; these numbers are to each other as 3 to 2. Of the 226 under five, 77 were under two years, and in four cases the disease could be referred to the sixth or seventh month of life; 338, or about nine-tenths of the whole number occurred before twenty, while only half the population at large is under twenty; 8 occurred after the patient had reached forty years of age, and 1 over fifty; the last occurred in the cervical region, in a man seventy-two years of age.

Bryant * mentions a specimen (Preparation No. 1004.92, Guy's Hospital Museum) showing Pott's disease in the dorsal region in a fœtus, so that it seems possible for the disease to be initiated at any age.

Whether the proneness of early childhood to this disease be a result of the greater softness of the osseous structures at that period, I must leave to others to decide.

The results given agree very well with the statements of the leading surgical authorities, *vide* Sayre,† Holmes,‡ Erichsen,§ Gross,‖ Kormann.¶ Mr. Pott, according to Bampfield,** never saw it in a subject over forty.

*Sex.*—I found 412 cases in which the sex was recorded, of which 235 were males and 177 females, or as 9 to 7. This bears out Dr. Sayres' † assertion that "it occurs more frequently among boys than among girls." Whether his explanation of this preponderance, viz., that it is due to a greater exposure to accidents (which I deem likely), be true or not, this proportion is about ten times greater than the preponderance of white males of all ages in the United States, according to Table XXVI., vol. xi., "United States Census Report of 1870," and even more for children under ten, where four-fifths of our cases occurred.

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THE TROUBLES OF A PHYSIOLOGIST.—The distinguished physiologist Paul Bert, successor to the chair of Claude Bernard, was recently summoned before the Tribunal of the Seine to respond to an action brought against him by Mme. Greyot. This lady petitioned for damages to the amount of 16,000 francs, asserting that the unendurable howling of the experimenter's dogs had driven the guests from her establishment. On the part of the defendant it was claimed that, upon the receipt of complaint, efforts had been made to remedy the evil. Bert had even gone so far as to render the animals mute by operative procedures. The aphonia of the canines having been demonstrated to the satisfaction of the court, the plaintiff's petition was denied, and Mme. Greyot was condemned to pay costs.

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* A System of Surgery. Edited by T. Holmes. Second edition, in five volumes. New York: Wm. Wood & Co.

† John Eric Erichsen: Science and Art of Surgery. Revised from seventh English edition, vol. ii., p. 290. Philadelphia: Lea. 1878.

‡ Thomas Bryant: Practice of Surgery. Second American (from third English) edition, p. 209. Philadelphia: Lea. 1879.

§ Samuel D. Gross, M.D.: System of Surgery. Fourth edition, vol. ii., p. 177. Philadelphia: Lea. 1876.

‖ Benjamin Lee, M.D.: The Correct Principles of Treatment for Angular Curvature of the Spine. Philadelphia: J. B. Lippincott. 1872.

¶ Newton M. Shaffer, M.D.: Pott's Disease. New York: G. P. Putnam's Sons. 1879.

** Lewis A. Sayre, M.D.: Spinal Disease and Spinal Curvature. London: Smith, Elder & Co. 1877; Lectures on Orthopedic Surgery. New York: D. Appleton & Co. 1876.

†† R. W. Bampfield: An Essay on Curvatures and Diseases of the Spine. Philadelphia: Barrington & Howell. 1845.

‡‡ Dr. Med. Ernst Kormann: Compendium der Orthopädie. Leipzig: Abel. 1874.

§§ Charles Fayette Taylor, M.D.: Orthopädische Behandlung der Pott'schen Kyphose. Berlin: Wolf Peiser. 1878.

* Practice of Surgery, p. 209.

† Lectures on Orthopedic Surgery, p. 261.

‡ A System of Surgery. Second edition, vol. iv., p. 103.

§ Science and Art of Surgery, vol. ii., p. 289.

‖ System of Surgery, vol. ii., p. 178.

¶ Compendium der Orthopädie, p. 89.

** An Essay on Curvatures and Diseases of the Spine, pp. 17, 142.

## ASTIGMATISM.

By C. A. BUCKLIN, M.D.,

NEW YORK.

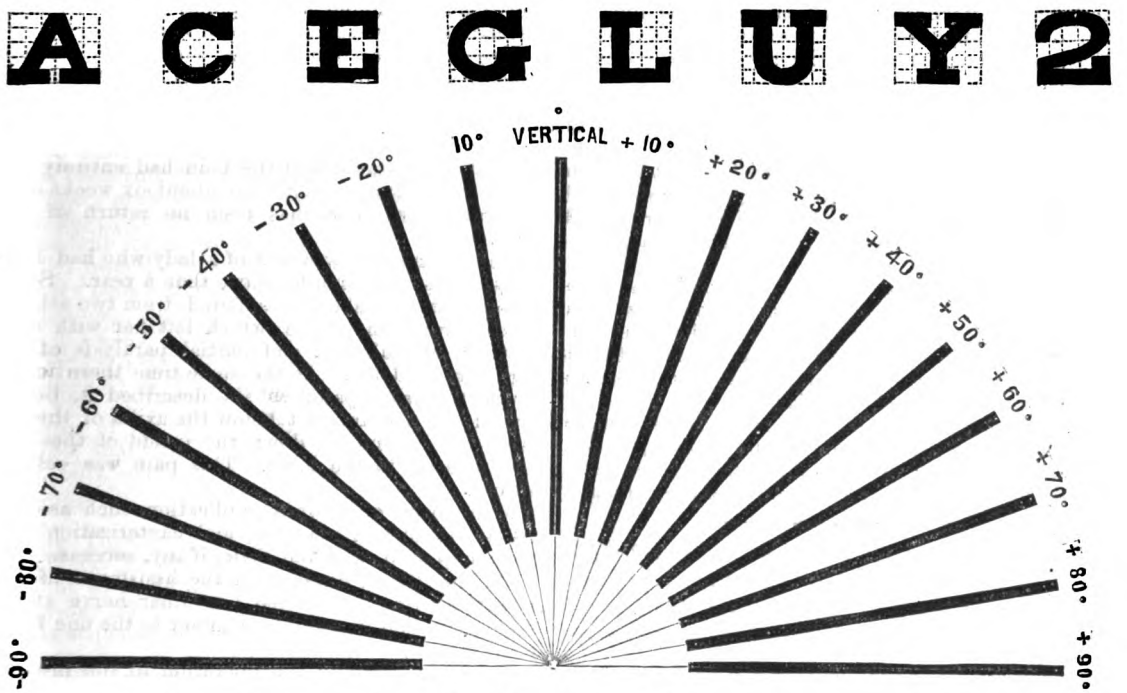
The cornea of man should be nearly spherical. It sometimes happens that it is of a decidedly ovoid form, which necessitates the curve in one meridian being considerably sharper than the other. The cornea being a portion of a lens system which casts a distinct image of observed objects upon our retina, it is readily seen that, in the meridian having the sharpest curve, the rays of light will be acted upon more strongly than in the meridian which has a flat curve; consequently, an observed object is confused and distorted in the direction of the *sharp corneal curve*, thus: the sharp curve of the cornea being in the vertical meridian, a pin-hole in a card through which light comes to us will appear *vertically oval*, and will only appear *nearly* round when the observed opening is made sufficiently oval in the horizontal meridian to correspond with its magnified diameter in the vertical meridian. I find many who were supposed to be afflicted, "*disease of the optic nerve*," "*imperfect entrance of the optic nerve.*"*

"*Amaurosis*," "*amblyopia*, etc.," are suffering from the optical effects of a faulty cornea *usually* causing regular astigmatism.

The irregularities in our crystalline lens is the commonest cause of what is called *irregular astigmatism*, an optical defect which is not correctible, which we all have to a greater or less extent, and without which we would all be able to see the moons of Jupiter with our naked eye. *Mechanics* are frequently found who can never file anything square; an opening or piece of metal which is square appears longer in one direction than the other, and it is not till the piece of metal *is longer* in the direction of the flat corneal curve that it appears square. Artists, students, and all classes who use their eyes constantly, frequently suffer from this defect.

Failing to receive any benefit from simple spherical lenses, they naturally suppose that their eyes are diseased. These individuals make the lives of spectacle-sellers uncomfortable by their constant *unsuccessful* efforts to obtain glasses. They dislike to look at striped goods, particularly when the abnormal curve lies in any of the quadrants between the horizontal and vertical meridians. It is particularly difficult for them to read in the evening, and they are constantly making remarks about how poorly they see without a very strong light.

The diagnosis of astigmatism is usually readily made if one is suspecting it. It almost invariably reduces the acuteness of distant vision. The line of letters here given should be read, at twenty feet at least, with the greatest ease. It is the universal standard for testing distant vision.




At the most distant point at which these letters are *perfectly* distinct, the radiating lines should all appear equally *dark* and *distinct*. If the vertical curve of the cornea is the sharpest, the horizontal lines will appear magnified and blacker until the vertical curve becomes so sharp that the magnification of the horizontal lines blur them. The vertical lines will then retain their natural thickness and remain distinct, but are never magnified under these circumstances; it is only when the horizontal curve is the sharper one, that the vertical lines may be magnified. A given meridian of the cornea being abnormally flat, the rays of light falling on this meridian will be united behind the retina; consequently, lines whose *thickness* is estimated by this meridian are indistinct.

The flat corneal curve being in the horizontal meridian, the *horizontal* lines will be the blackest.

Persons who can read the above letters with ease

* The above condition was really given as a diagnosis by an ophthalmoscopist. If such a condition exists, there is nothing known about it.

at twenty feet, to whom the radiating lines all appear equally dark, and who still have weak vision caused by astigmatism, are very rare.

Persons who are quite far-sighted are obliged to accommodate strongly for distant objects, and do not show their astigmatism till the *unusual* amount of accommodation is forcibly dispensed with by giving convex lenses, which neutralize their hyperopia. They are thus prevented from compensating for the faulty structure of their corneas by changing the form of their lenses.

I have observed one case (and I think the only one observed) where, owing to a choroiditis, the rods and cones of the retina had been sufficiently separated to produce the phenomenon of "*small vision;*" the horizontal dimensions of objects were particularly small; a cylindrical lens with axis vertical greatly improved the vision, and was of most decided relief to the patient.

The fact that, at the most distant point at which the square letters can be read, the radiating lines do not look equally black, is good ground for supposing that reduced acuteness of vision or weak vision is caused by faulty corneal curves.

The defect is corrected in the following manner: where the vertical curve is too sharp, a piece of glass ground on the convex surface of a cylinder is placed before the eye with the axis horizontal; such a lens acts only upon rays of light in the vertical meridian, and can be ground with just the required curve to compensate for the abnormally sharp corneal curve.

When the horizontal meridian is too flat, a piece of glass ground on the concave side of a section of a cylinder is placed before the eye with the axis vertical. Other visual imperfections may be corrected at the same time by grinding on the other side of the cylindrical lens the requisite lens.

How these radiating lines appear to an astigmatic person may be readily seen by pressing upon the upper part of the eye-ball with the fingers sufficiantly to increase the vertical curve of the cornea.

## NERVE-STRETCHING AS A RADICAL CURE FOR PAIN.

By GRÆME M. HAMMOND, M.D.,

PHYSICIAN TO THE DEPARTMENT FOR NERVOUS DISEASES IN THE METROPOLITAN THROAT HOSPITAL.

So much has lately been written concerning the efficacy of nerve-stretching for various affections, and the results, to a great extent, have been so satisfactory, that the two cases I am about to report may not be without a certain amount of interest to the profession.

In both of these cases there was intense pain in those parts of the arm, forearm and hand supplied by the ulnar nerve.

Drs. Fenger and Lee, in their exhaustive article on "Nerve-Stretching, which appeared in the *Journal of Nervous and Mental Diseases*, April, 1881, report two cases in which the ulnar nerve was stretched for neuralgia.

The first case was operated on by Vogt, in 1878. The patient suffered from a "neuralgia after wound on the inner side of the forearm, involving the ulnar nerve. The incision was made in the scar, and the ulnar nerve dissected out and stretched. The operation was followed by immediate and permanent relief."

The second operation was performed by Czerny, 1879. In this case there was "neuralgia subsequent to suppuration around the elbow-joint. The ulnar nerve was stretched in the axillary plexus. The patient's condition was ameliorated, but the recovery was not perfect."

The first case that came under my observation was that of a man forty-five years of age, who presented himself for treatment at the Department for Nervous Diseases in the Metropolitan Throat Hospital. He stated that, on election day, in order to emphasize his remarks, he struck his clenched hand two or three times very forcibly on the table.

Three days afterward he was seized with violent pains involving the middle, ring and little fingers, and the ulnar side of the forearm of the right side. On May 29th, with the assistance of Dr. Henry Norris, I operated on him at the hospital. I made an incision about three inches in length midway between the internal condyle and the olecranon process of the ulnar.

I selected this position for the incision as the nerve is easily found at this point, and is unaccompanied by any vessels of large size.

The nerve was found in its usual position, and, placing a large director under it, I gently raised it until it yielded in both directions. The nerve was then replaced, and the wound sewed up.

As soon as he had recovered from the effects of the ether, he stated that the pain had entirely left him. Up to the present time, about six weeks after the operation, there has been no return of the pain.

The second case was that of a lady who had been under my supervision for more than a year. Some seven years ago she had suffered from two attacks of cerebral hemorrhage, which left her with difficulty in articulation, and partial paralysis of the right arm and leg. At the same time there was a severe "tearing pain," as she described it, beginning from a point just below the axilla of the left arm, and continuing down the inside of the arm and forearm to the hand. This pain was seldom absent.

Many forms of outward application, such as electricity, liniments, massage, and cauterization had been employed, with but little, if any, success.

On the 7th of June, with the assistance of Dr. Henry Norris, I stretched her ulnar nerve at the same place and in a similar manner to the one I had previously operated on.

From the time of the operation to the present moment, with the exception of slight soreness about the region of the wounds, there has been no pain whatever.

The good results reported by Drs. Fenger and Lee, and the successful termination of these two cases of my own, lead me to believe that cases of neuralgia, not due to a distinctive process in the nerve itself, or to pressure on the nerve, or where the nerve-stretching is not carried to too great an extent, will in most cases find permanent relief from this simple operation.

A Grateful Patient.—Not often is there recorded such an illustration of gratitude toward the physician as was shown by Thomas Hobson, aged seventy-eight, who hanged himself in the Prestwich workhouse, England, after having made a will bequeathing his body to his medical attendant, "in gratitude for his kindness and urbanity." The doctor did not accept the bequest, however, but turned it over to the School of Anatomy, at Owens College.

# Progress of Medical Science.

A Hitherto Undescribed Disease of Childhood.—Antonio Rigo reports (*Il Movimento med.-chir.*, No. 1, 1881) numerous cases of a peculiar affection which has been prevalent in Terra di Lavoro during the last sixty to seventy years. Its most characteristic feature consists in the formation of a pearl-gray, false membrane, of the size of a pea up to that of a centesimo, on the under surface of the tongue anywhere between the tip and frenulum. It is adherent to the mucous membrane, above the level of which it is but little prominent, and, on being torn off, while causing only slight hemorrhage, exposes an ulcerated base, which becomes covered with a new membrane in a day or two, despite cauterization with nitrate of silver. The rest of the mucous membrane of the mouth is not affected, there is no fœtor ex ore, no swelling of the tongue or adjacent lymphatic glands, and no interference with nursing. The disease occurs only during the summer months, is always associated with intestinal catarrh, and is fatal in ninety per cent. of the cases, death being due to inanition. The affection is confined to nurslings, occurring most frequently in the period immediately preceding the first dentition, and is not contagious, but infectious. It does not appear to be dependent upon any constitutional anomaly inherited from the parents, although these are usually country people living under the most impoverished conditions. The author has not met with the disease in its first stage, nor has he been able to make any post-mortem examinations or microscopical investigations of the false membrane. Its non-identity with diphtheria is established by the clinical features of the disease, and more particularly by the fact that diphtheritis has occurred in the district only since the last decennium.—*Allgem. med. Central-Zeitung*, May 28, 1881.

The Therapeutic Uses of Nitrite of Amyl.—Dr. Edgar Kurz, of Florence, has found this medicament so useful in the various aches and pains of every-day life that he has persuaded many families of his acquaintance to keep it on hand as a domestic remedy. It is an excellent external application for stomach-ache, colic, tooth-ache (whether nervous or arising from caries), neuralgia of the trigeminus, of the cervico-brachial plexus, etc. It is superior to anything else when inhaled in so-called angio-spastic hemicrania, giving rapid relief in the individual paroxysms and prolonging the intervals between the latter. No trial was made in cases of angio-paralytic hemicrania, since in this affection the drug would be physiologically contra-indicated. It has a very good effect in dysmenorrhœa, especially when occurring in chlorotic girls; in mild cases external applications suffice, otherwise the drug should be inhaled (when complicated with inflammatory conditions of the uterus or appendages the results were doubtful or negative). Its physiological action being that of a paralyzing agent of the muscular tissue of the blood-vessels, with consequent dilatation of their calibre (most marked in the upper half of the body), nitrite of amyl is theoretically indicated in all conditions of cerebral anæmia. Practically it was found to be of much value in attacks of dizziness and faintness occurring in anæmic individuals, as also in a fainting-fit from renal colic, and in several cases of collapse during anæsthesia by chloroform.

It has been recommended in asphyxia from drowning, hanging, and in asphyxia of the new-born. But the first indication in these cases is the induction of artificial respiration, after the successful initiation of which inhalations of nitrite of amyl doubtless assist in overcoming the concomitant spasm of the smaller arteries.

One of the most important indications for the use of the drug is threatening paralysis of the heart from insufficient compensation. In such cases it is necessary to gain time until digitalis and alcoholics can unfold their action, and here nitrite of amyl stands pre-eminent. A single case in point will suffice to illustrate this. The patient was suffering from mitral insufficiency, with irregular pulse, loss of appetite, enlargement of the liver, and mild jaundice. Temporary relief had been several times afforded by infusion of digitalis. In February, 1879, the condition of the patient suddenly became aggravated. The pulse became very irregular and intermittent. The condition described as delirium cordis presented itself, together with epigastric pulsation and vomiting. Vigorous counter-irritation, by means of hot bottles and sinapisms to the extremities, etc., proved useless. Digitalis and champagne, when administered, were immediately vomited. The pulse ran up from seventy until it could no longer be counted at the wrist, while the beats of the heart increased to one hundred and twenty and more per minute. The extremities grew cold, and the face became covered with perspiration. The urine was highly albuminous. Nitrite of amyl was then administered by inhalation: at first, three to five drops; then, ten to twenty; and finally, more or less was poured on the handkerchief without being measured. During each inhalation the condition of the patient rapidly improved, but as quickly grew worse, so that the drug was continued at short intervals all night, ten grammes in all having been used. In the morning the patient was better, and 0.5 grammes of digitalis was then given in infusion per rectum, and repeated on the following day, after which the patient remained comparatively well until a year and a half later, when a second attack of the kind just described was quickly cut short by similar treatment.

Another noteworthy case was that of a robust man of thirty years, who was attacked with acute gastro-intestinal catarrh. The patient had as many as one hundred watery evacuations in forty-eight hours, with fainting-fits, violent cramps in the calves of the legs, two attacks of general convulsions—in short, he presented the picture of a person attacked with cholera. Opium, champagne, hypodermic injections of sulphuric ether, counter-irritation, etc., proved useless. The doctor was on the point of injecting dilute liq. ammonii into the veins, but, none being obtainable, it occurred to him to try nitrite of amyl as a last resort. A considerable amount was poured on a handkerchief and held before the patient's mouth and nose, while the legs were also rubbed energetically with the same agent. Respiration soon became deeper and more regular, while the pulse gradually returned at the wrist. These procedures were repeated again and again, without regard to the quantity of the drug used, as soon as the radial pulse became weaker, and kept up until the patient complained of a sense of fulness in the head, and requested the discontinuance of the drug. The evacuations became less frequent, and in a week the patient was able to be up. Re-

suming then, Kurz concludes that nitrite of amyl is indicated in cardiac affections when the capillary circulation is obstructed and the cardiac muscle is threatened with paralysis from overwork; further, in cases of impeded circulation occasioned by cholera or severe diarrhœa, particularly in the so-called hydrocephaloid (false hydrocephalus) of children. It is worthy of trial in tetanic and eclamptic seizures, and in tonic angiospasms such as occurs during the chill of malarial fevers, although in the last-mentioned condition pilocarpine is perhaps more suitable, provided the energy of the heart be unimpaired.

As regards the dose, Kurz's experience demonstrates that we need not restrict ourselves to a few drops. The quantity may be increased, if necessary, until symptoms of cerebral congestion show themselves, when the drug should be momentarily or permanently discontinued. Usually from three to five or ten drops are sufficient, sometimes even less. Kurz has met with no unpleasant consequences, much less serious complications, from the application of nitrite of amyl. But the drug is contraindicated in cases associated with cerebral hyperæmia, in atheromatous conditions of the arteries, and in the so-called plethoric state.—*Betz's Memorabilien*, March 24, 1881.

Treatment of Neuralgia and Hyperæsthesia of the Ovary.—Dumontpallier (*Gazette Hebdom.*, 1879, p. 733) found that in many cases of neuralgia and rheumatic arthritis the pain was quickly relieved by hypodermic injections of water, or by the mere introduction of a needle at a corresponding point on the opposite side of the body, while the same manœuvres were less effective when applied directly over the seat of pain. Taking a hint from these results, Seeligmüller adopted the same treatment in a case of very intense pain and tenderness of the left ovary, complicated with cataleptic symptoms, etc., in a girl of twenty years. The patient was in a condition of chronic morphism, having received hypodermic injections of 0.04 gramme and upwards of morphia, one or more times a day, for several years. Under the pretence that the skin of the left side was so riddled with punctures as to be no longer suitable for injections, Seeligmüller injected water with a slight admixture of acetic and carbolic acids, over the region of the right ovary, with the result of relieving the patient's sufferings as effectually as had been previously accomplished by morphia. The effect, although only palliative, was promptly manifested at every succeeding injection. Seeligmüller believes that these peculiar results are rendered somewhat comprehensible by the observations which have been made regarding the phenomena of transfer ("*Transfert*"), which make it probable that every part of the body stands in reflex communication with a corresponding point of the opposite side. —*Med.-chirurg. Rundschau*, March, 1881.

Significance of Myelin, Pigment, and Epithelial Cells in the Sputum.—Dr. Oscar Panizzo has made a series of experiments in the laboratory of Prof. Ziemssen, in Munich, in order to determine the physiological and pathological importance of the above-mentioned constituents of the sputa, and has arrived at the following conclusions:

*First.*—Myelin is only a name for the external appearance of a large number of very different substances. It may be produced artificially by the mixing of oleic acid and ammonia, olive-oil and ammonia, salivary mucus and benzol, etc. When found in the sputa or on the mucous membrane of the respiratory tract, it is a form of mucin, which is evacuated from the goblet-cells either as free myelin or under the form of myelin-cells. The latter, in the course of their amœboid movements, take up particles of dust, soot, and other foreign bodies, and thus become transformed into pigmented myelin-cells. These are the so-called granulated pigment-cells (Pigmentkönnchenzellen) to be found in the sputa of people after inhaling dust. They can always be found on healthy mucous membranes which are lined with ciliated epithelium, and in the sputa. Occasionally, even pus, mucus, and epithelial cells, in any part of the respiratory tract, may become converted into pigmented myelin-cells by a process of mucino-myelinic metamorphosis.

*Second.*—When epithelia from the pulmonary alveoli have undergone pathological changes, they cannot be distinguished in the sputum from epithelia of other derivation which have been altered by similar pathological alterations. (This disposes of Buhl's assertion that he can diagnosticate incipient desquamative pneumonia—the most common variety of phthisis—by the mere presence in the sputa of altered alveolar epithelium).

*Third.*—Micrococci of various sizes, and often aggregated like sarcina, are always present in the epithelium of the mouth in healthy people.—*Deutsches Archiv für klin. Med.*, April 25, 1881.

Massage for the Relief of Tabetic Anæsthesia. —Schreiber reports a case of locomotor ataxia in an advanced stage, with moderate ataxia, lancinating pains, gastric crises, paralysis of the abducens nerve, and complete anæsthesia of both gluteal regions. Having previously convinced himself that massage was capable of curing the anæsthesia which often presents itself in the course of neuralgia, especially sciatic, Schreiber resolved to try this treatment in the case under consideration, although it has been heretofore held that mechanical treatment is to be avoided in locomotor ataxia. In daily sittings of five minutes' duration, the affected parts were kneaded and stroked with the clenched fist in various directions. The manipulations were performed with only moderate force, and did not cause the slightest pain. After a lapse of twelve days the anæsthesia, which had existed five months without any intermissions, disappeared entirely. Upon what physiological basis this effect rests it is impossible at present to say. Tuerk was the first to point out that rubbing was sufficient to relieve mild cases of anæsthesia, and he asserted that the benefit derivable from salves and liniments were in a great measure attributable to the conjoined mechanical manipulations.—*Med.-chirurg. Rundschau*, April, 1881.

The Prevention of Ophthalmia Neonatorum.— Like most lying-in institutions, the maternity hospital at Leipzig has constantly had to do with a large number of cases of virulent conjunctivitis of the newborn, amounting to as much as eight or ten per cent. of the whole number of infants born in the building. Crédé at first endeavored to combat this state of affairs by repeatedly washing out the vagina in parturient women with disinfectants, but met with scant success. Of late a more effectual prophylaxis has been secured by instilling into each eye, immediately after delivery, one drop of a two per cent. solution of nitrate of silver, the eyes being constantly covered during the succeeding twenty-four hours with compresses dipped in a two per cent. solution of salicylic acid. Out of two hundred infants treated

in this way only one became affected, and it was shown in this instance that the prescribed directions had been neglected. It made no difference in the results whether disinfectant vaginal irrigations were employed or not. Ohlshausen, of Halle, has been less successful in preventing the development of this scourge of the new-born, although he has been able to reduce the morbility from 8.8 to 3.6 per cent. He directs the eyelid to be carefully washed before the infant has opened its eyes, the conjunctival sac to be wiped out with a clean wad of cotton, and then washed with a one per cent. aqueous solution of carbolic acid. Should one eye become diseased, the arms of the infant are at once bandaged to prevent its inoculating the other eye, and the infant is laid on the affected side.—*Archiv für Gynäkol.*, Bd. xvii., Heft 1; *Centralblatt für Gynäkol.*, No. 2, 1881; *Med-chirurg. Rundschau*, April, 1881.

Bloodless Method of Treating Atheromata.—Following Panas' good results in cases of ranula, Scharnowski has treated eleven cases of atheroma (sebaceous cyst) by injections of several drops of a ten per cent. solution of chloride of zinc into the centre of the tumor. In the first patient the cyst was situated upon the upper eyelid, and measured four centimetres in diameter; the first injection was followed by moderate tumefaction and local elevation of temperature, which passed off in about five days, after which the tumor underwent marked diminution in size, and was made to disappear completely after three more injections, given at intervals of five days. The remaining cases were equally successful, from three to nine injections being required, at intervals of five to seven days. In no case was the formation of an abscess caused by this method of treatment.—*Vratsch*, No. 49, 1880; *Med.-chirurg. Rundschau*, April, 1881.

Mycosis of the Trachea.—Herterich's patient was a young man of nineteen years, presenting the symptoms of a mild pharyngeal catarrh. Physical examination of the chest gave negative results. Every eight or ten days the patient coughed up a rather consistent lump of glassy, gray mucus, in the centre of which was imbedded a solid body of the size of a bean, resembling a kidney in shape, with one smooth and no opposed rough surface. The central mass had a gray color, with shades of yellow and green, crumbled readily, and on microscopical examination was found to consist almost exclusively of *eurotium aspergillus*. Examination with the laryngoscope disclosed a healthy larynx, but diffuse deep injection of the bronchial mucous membrane. At the level of the sixth, seventh, and eighth cartilaginous rings, on the anterior wall and extending to the left, the mucous membrane was moderately tumefied. In this situation as well as in the region below, as far as the lower border of the ninth tracheal ring, the parts were the seat of deep purple injection and superficial excoriation, but no adherent mucus and no false membrane were seen. Lower down the hyperæmia disappeared.

Herterich assumed that the peculiar sputum was generated at the swollen parts of the bronchial mucous membrane; in fact, daily examination with the laryngoscope enabled him to verify this supposition. Inhalation of carbolic acid exercised no influence on the course of the affection, which was entirely cured, however, by inhalations of iodine, given thrice daily for several minutes; during fourteen days.—*Aerztlich. Intelligenzblatt*, No. 43, 1880; *Med.-chirurg. Rundschau*, April, 1881.

Early Resection in Tubercular Disease of the Joints.—At the last Congress of German Surgeons, as reported in the supplement of the *Centralblatt für Chirurgie*, No. 20, 1881, Koenig read a paper on the above subject. He divided cases of tubercular joint disease into two classes, namely: those in which there is, at an early period, extensive destruction of the tissues of the joint, with formation of caseous abcesses and great disturbance of the mechanism of the articulation; and those which apply for treatment before the cavity of the joint is invaded, the disease being restricted to the articular ends of the bones, with the addition, perhaps, of peri-articular abcesses. In the former variety there can be no doubt that resection is the only proper treatment. As regards the second class of cases, while many endorse resection, Koenig does not practise it, because the operation is by no means a guarantee against subsequent general tuberculosis, either theoretically or clinically. Moreover, he has been able, by conservative and orthopedic treatment, to bring about a definite cure of such cases, with the retention of perfect or very good function of the joint. Under conservative treatment, Koenig seems, from the tenor of his remarks, to include erasion, évidement, and other similar procedures.

In the very animated discussion which ensued, and in which Sonnenburg, Hueter, Klebs, Schede, Kraske (Volkman's first assistant), and others took part, the greatest diversity of opinion was manifested. As regards the anatomical appearances of tubercles, the weight of opinion seemed to be that their presence was not sufficiently characteristic to distinguish tubercular from scrofulous, syphilitic, and non-specific neoplasms. Respecting the value of inoculation to determine the tubercular nature of suspicious granulations or other elements, Klebs and Rosenbach asserted that such experiments gave positive results. If genuine tubercle were employed, local tuberculosis developed in a large number of cases at the site of inoculation, while general miliary tuberculosis not infrequently followed. On the other hand, Schede stated that he and Friedlaender had frequently introduced tuberculous masses into the peritoneal cavity of rabbits, and always with negative results. Thiersch, in closing the discussion, thought that it was at present impossible to arrive at any unanimity of opinion on the subject, but he hoped that in the near future sufficient data would be furnished us for the formation of definite conclusions on this most important topic.

Fatty Tumor of the Tongue.—At the Charité Hospital, M. Gosselin recently observed a rare form of lingual neoplasm, consisting of a true lipoma. The patient was a man aged forty eight years, who had first noticed a little button at the tip of his tongue, and to the right, when twenty-three years old. Very gradually the tumor had increased in bulk. Special symptoms or inconvenience were not developed; nevertheless, for the past two years phonation had become somewhat impaired. The neoplasm had attained about the size of a walnut, had a distinct pédicle, and did not appear to extend into and between the lingual muscles. At the surface of this submucous growth some ulceration had taken place. The operation consisted of simple ablation. The microscope confirmed the naked-eye diagnosis, and the mucous membrane covering the lipoma was found to be unaltered.—*Lyon Médical*, April 3, 1881.

# THE MEDICAL RECORD:

## A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., Editor.

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## CONCERNING PRIZE COMMITTEES.

THE reports of prize committees are so often to the effect that no essay worthy of award was offered, that we are led naturally to inquire into the reason for such a state of things. While the facts, as given by the committees, may tend to show that prizes are not easily earned, they also prove, to a certain extent at least, that the ambition of the working element of the profession is being turned into other and more profitable channels. While we are willing to admit the truth of the former assumption, we are inclined to give more weight to the latter than would at first appear to be warrantable. We are glad to think that, as a rule, the prizes offered are hard to win, but it is far from gratifying to suppose that it is still more difficult to enlist the interest of the proper workers. The latter is oftener the reason why prizes are not won than the mere fact that they are difficult to obtain. There are not wanting many explanations for all this which apply with peculiar force to the manner of prize-giving in this country.

In the first place, the prizes are small compared with the amount of work which is exacted of the competitor. As a rule, or, at least, in the large majority of cases, the mere pecuniary reward, trivial as it generally is, is all that the victor can claim, aside from a casual mention in the society's proceedings, and a tardy and restricted publication in the Transactions of said body. It is needless to say that many of the most valuable and original researches are thus buried, to the disappointment of the author, and to the detriment of the profession. One trial of this kind, on the part of any writer, is enough to convince him of the inutility of making another, and his experience does not go for naught with other active and ambitious workers. It is true, that this dog in the manger spirit, on the part of many societies, is giving way to the real necessities of the hour, but the rule forbidding the outside publication of society proceedings, and more especially prize essays, is still quite general. And such a law inflicts penalties on the very ones it intends to benefit. The man who writes for a prize has the main object in view of deriving for his labor the greatest obtainable benefit. He certainly does this by securing the largest possible reading of his essay. When he is hindered in so doing, there is but one result to anticipate. No man cares to throw away valuable original work for the sake of benefiting a society of which he may be a member—virtually delivering over, for a paltry consideration, the right and title to use his brain-product to an organization which avowedly has no other aim than that of its own petty glorification. Hence it is that societies, whose membership comprise some of the best working talent in the profession, have, year after year, nothing for their prize committees to do.

Another reason why these negative reports concerning prizes won are so often made, is, that the subjects chosen are not such as invite investigation and study. Some of the themes are not only poorly selected, but are of such a character as to make intelligent investigation of them impracticable, if not impossible.

Then again, the conditions in regard to the prize are oftentimes so difficult of reasonable fulfilment, as to deter the right men from entering the lists altogether. Much better would it be in all cases to leave the selection of a subject to the competitor, and allow him to treat it in his own way. Under such circumstances the aspirants would throw in their best efforts, and give the results of study which had been stimulated by their surroundings and influenced by their opportunities.

It is no disparagement to the judgment of the majority of gentlemen who serve on such committees to say, that they are not always capable of deciding as to the real merits of the essays offered. Not very infrequently, subjects are presented to them of which they cannot possibly have the necessary expert knowledge, and concerning which they can have no opinion as to their relative or positive merits. More than one instance of this kind has come to our knowledge where essays have been rejected, when afterward published have called forth the unqualified commendations of the medical critics, and have been voted the merit of original research and the high distinction of a valuable addition to medical literature. We confess that it is not only often difficult but sometimes impossible to find competent experts who are willing to pass upon the merits of any essay for the mere accommodation of a prize committee. But this is hardly a reason why such attempts should not be made in the cause of justice to one who labors conscientiously as a candidate for a prize.

Nor does it seem fair that the conditions as to the probable knowledge of authorship should be

strictly enforced in all instances. Often it is impossible to hide the identity of an author in the discussion of a subject with which he is especially familiar, and of which he is generally competent to express an opinion. Under such circumstances, his very fitness to do the best work would disqualify him for obtaining what should otherwise be his legitimate reward. The fear of partiality by the committee is not so great as the possible injustice to a candidate who may choose a topic that unfortunately betrays him.

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MEDICAL MISSIONARIES.

THE Edinburgh Medical Missionary Society is about to send out eight qualified medical men as medical missionaries to different parts of the world. The Zenana and Medical Mission of London is doing the same kind of work. It has been, and is now, training women to be missionaries, giving them at the same time a fair medical knowledge. Most of these lady missionaries will go to India, where the opportunity for their work is immense. There are in that country many millions of women who are entirely ignorant of how to care for their health. They are also cut off by the customs of the country from male medical advice, even if it were otherwise attainable.

In the United States similar efforts to send out medical missionaries are being made. The Woman's Missionary Society of this city has appealed to the students of the Woman's College of the New York Infirmary, asking that some may fit themselves for missionary work. The same appeal has, we understand, been made to other colleges, and not without success.

Even from a sectarian point of view, it can easily be seen that the opportunities for doing good by carrying medical and sanitary knowledge into pagan lands are immense. And this fact is being appreciated. The number of medical missionaries is now said to be rapidly increasing. Twenty years ago there were fewer than thirty physicians who were agents of missionary societies; now they number a hundred, or more.

Some of the greatest successes in the missionary field have been achieved through the activity of these men. In India, China, Japan, and Syria they have done especially good work. No little addition to medical science has come from the same source. The medical college in Beirut, Syria, and the medical mission hospital at Foochow, Japan, furnish some of the evidences of this. The RECORD has from time to time chronicled some of the work of the men connected with these institutions. It is a gratification to know that a class of persons who will have such large opportunities to serve their fellowmen, as well as their Master is steadily increasing.

And here, we might add, is another opening for our over-supply of young medical men. Indeed, as one gazes upon the crowded benches of our commercial medical schools, it is impossible not to think how much good some of those young men could do in India—and how little here.

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DOCTORS' SIGNS.

"CONSIDERING our present advanced state of culture, and how the torch of science has now been brandished and borne about, with more or less effect, for five thousand years and upward; it must strike the reflective mind with some surprise that hitherto little or nothing of a fundamental character has been written on the subject of Doctors' Signs."

Much has been said about the necessity of a thorough education, of a reputable diploma, of affable manners, of regular attention to business, to bills, and the Code of Ethics, but our literature is silent on the subject of signs. Yet their importance in the medical economy is too great to deserve such entire neglect. We know all about gun-shot wounds of the liver, and every doctor in the country who ever had a case has by this time reported it.

Let us turn for a moment, therefore, to a subject of broader and more practical interest; for the doctor's success depends more on his sign than on his diploma, or the Code. It is the link which joins him to the world. Strip the profession of its signs, and it would become an inert mass, an organism with only efferent impulses.

Looking at them from a respiratory point of view, we may consider signs as the oxygen of our medical existence; without them the doctor would shrivel up, like a flower of Paradise in the antiseptic mists of a surgical operation.

But we shall take credit for something more than calling attention to the importance of this subject. It is one worthy of analysis and study. There is much of character in signs. They form the physiognomy which the profession presents to the public. The philosophic student will always learn something of the doctor by examining the silent announcement in gold and black which is offered to the passer-by.

The time is not ripe for an exhaustive classification of signs. It would indeed be disrespectful to a subject of such fundamental importance to attempt a complete dissection of it now. But a Provisional Nomenclature may be useful at this time, and may furnish suggestions to future thinkers.

The medical profession, as it seems to us, proclaims its magnificent and philanthropic potentiality by the Brazen Sign, the Æsthetic Sign, the Tattered Sign, and the Sign of Indifference.

In the first class there is much to suggest remark. The brazen sign is large; it covers the whole doorpost, it stretches from window to window; its lettering is brilliant, and it is set off with scroll-work in the corners; the passer-by sees it, and cannot but

read it; small boys shout out the name as they go by, and adults mutter it over till they reach another block. It is judiciously placed so that the street-lamp illumines it at night. It affects the more public ways, and it indicates the astute and enterprising physician. He is one who maintains a dignified equipoise between the Code which says: "Thou shalt not advertise," and the Bible which says: "Let thy light so shine."

In these days when æstheticism is in the ascendant, when every man of thorough culture lunches at least once a week on the sight of a lily, it would be strange if a love of the beautiful did not affect the style of that corner slab of modern civilization—the subject of this discourse. The Æsthetic Sign, in its supremest development, consists of a black marble slab, in which the physician's name is carved and gilded. When especially "intense," the letters are old Roman, with golden punctuation marks, which delicately suggest to the looker-on that he come to a full stop. Some superficial critics have already classified these evidences of the union of the beautiful with the pilular, as "mortuary signs"—a name which is uncanny and which stamps its user as a Philistine.

We have heard of an enterprising medical student who had a tin sign made for him at the beginning of his studies. This he nailed to the roof of his father's barn, where its brightness was gradually mellowed by sun and snow until the owner graduated. It is those who look far ahead that succeed in this world. And this youth had his reward. He started his career with a tattered sign. Dingy and battered, it assured the reader that that doctor must have prescribed pills for innumerable years.

But the tattered sign is not often produced in this unethical manner. The painful brightness of the first sign as a rule fades but slowly. The painter always puts on a varnish of the first quality. When dimness does come at last, therefore, the pride which is taken in its aged look is quite pardonable. It has been fairly won—and it helps business. For each letter, as it fades into illegibility, proclaims a wider experience. As rust corrupts the metal, the doctor's practice grows. There may be less tin outside, but there is more within. As Diogenes said of dancing: "The worse, the better."

It is only a chosen few who can use that modest and inconspicuous prospectus, which may be called the Sign of Indifference. When the doctor has grown gray in study and hard work, when he has written four books and many monographs, when he owns a share in a medical college, has invented a new speculum, or has been called to treat a President, then he can make his location almost unnoticeable. The young æsthete sometimes aspires to a like disdain of publicity; and transparent glass with slim letters of gold, is all his sensibility will endure. But, as a rule, the transparent sign, the plain silver door-plate, belong only to those whom we have mentioned. It is pleasant to see it. We are assured that here professional advice is really sought for, not offered, even by telegraph.

We have touched but briefly and tentatively upon a subject which we could no longer see so utterly neglected. It is impossible that something further should not be written about it. There are over sixty thousand doctor's signs in this country alone; and every one is different. Yet there is no standard authority which shall tell the young medical graduate with what kind he shall set out on his career of life-long sacrifice.

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### THE PRESIDENT'S PROGRESS.

THE official bulletins from the White House have continued to be encouraging. There had, at date of writing (August 10th), been no morning when the temperature was not normal or but a degree above it. We are informed, also, that the President has been daily gaining in bodily strength. The only symptoms that could be construed as at all unfavorable have been the somewhat rapid pulse, and an increased amount of fever which set in a week ago.

The pulse on the morning of August 5th had fallen to 88, which was as low as it had ever been. The temperature was normal, and it rose but little in the evening. On the next day, however, the afternoon fever began to increase, so that on Saturday and Sunday the thermometer registered nearly 102° at 7 P.M. This rise was ascribed, by some of the local correspondents, to the intense heat on those days, a heat which the cooling apparatus was powerless to control. The real cause, however, turned out to be another partial obstruction in the course of the wound. The process of granulation partly filled up the orifice, so that the drainage-tube could be passed in only with difficulty. It was evident, also, that the opening had become too small to allow a free exit to the pus. The patient was, therefore, on the 8th inst., etherized. A counter incision was made by Dr. Agnew in the course of the wound and just below the twelfth rib. The operation was plainly a most judicious one. The patient has since then had a little more fever, but the discharge of pus is much facilitated, and the general condition continues good.

It becomes more patent than ever that the President has now only the dangers of a long suppurating tract with which to contend. There seems to be little evidence now that the bullet ever injured the liver, nor is there at present much reason to fear complications from its presence.

In the light of the facts that are furnished the medical and general public, it is not easy to understand the extreme caution of the surgeons as to probing the wound. A new electrical probe which sings out, so to speak, when it touches a bullet, has been provided, but was not used at the time of the operation.

# Reports of Societies.

## NEW YORK SURGICAL SOCIETY.

*Stated Meeting, May* 10, 1881.

DR. H. B. SANDS, PRESIDENT, IN THE CHAIR.

DR. C. T. POORE presented four patients, in illustration of the communication which he made to the society on

### OSTEOTOMY FOR GENU VALGUM.

DR. R. F. WEIR presented a boy upon whom he had performed osteotomy for genu valgum on February 19, 1881, with a satisfactory result. Last week he returned to the hospital with a slight serous effusion into the left knee-joint.

Dr. Weir also presented a patient on whom he had performed

### RESECTION OF THE SUPERIOR MAXILLARY NERVE BEYOND MECKEL'S GANGLION.

The history was furnished by Dr. J. S. Hawley, of the New York Hospital.

F. O——, forty-seven years of age, was admitted to the hospital on Feb. 22, 1881. Patient has suffered from neuralgic pain, affecting right superior maxillary nerve, for twenty-four years. During the last ten years the pain has existed in the parts supplied mainly by the infra-orbital, and, to a less degree, by the inferior maxillary nerves. The pain is spasmodic, coming without periodicity, and lasting from two seconds to a minute. It is also brought on by much talking, reading, or brushing the teeth of the right jaw. The hearing is lost in the right ear. Never has had headache or dizziness.

Patient had a single paroxysm of intermittent fever in 1856. Denies venereal or rheumatic history.

Patient has had medical treatment of the most varied description, without relief—all anti-neuralgic remedies and galvanism having been faithfully tried. The list embraces not only arsenic, quinine, and other remedies of older reputation, but also gelseminum, aconitia, ammonio-sulphate of copper, chloroform hypodermically, and tonga.

Two years ago about one inch of the superior maxillary nerve was removed by Dr. E. C. Seguin, the operation being followed, after two months of constant pain, by partial relief, estimated by patient at fifty per cent. After this time the pain again returned, and the former symptoms are at present existing.

It having been thought that a division of the superior maxillary nerve farther back, if possible, beyond Meckel's ganglion, would offer a reasonable hope of success, on February 23d, Dr. Weir operated as follows, having, previously to the etherization, given a hypodermic of sol. morph. Magend., ℥ ix.

The patient being secured in a semi-recumbent position, a curved incision, two inches long, was made parallel to the inferior margin of the orbit, and three-fourths of an inch below it, being joined at the junction of its inner and middle third by a second incision, two and one-half inches long, directly downward, on a line with the second bicuspid tooth. Both triangular flaps thus formed were dissected back from the bone, and the periosteum raised with an elevator. The antrum was opened by breaking through its anterior wall with a gouge. The infra-orbital foramen was found to be filled with tissue, at first thought to be a reproduced infra-orbital nerve, but attempts to follow it backward, by breaking through the floor of the infra-orbital canal, were futile. The posterior wall of the antrum was broken through at its upper part by means of blunt-pointed scissors, a hook was introduced, and a portion of the nerve, recognized as such by its glistening appearance and striæ, pulled forward. The nerve was separated from its attachments by sliding along it a wire, with a forked extremity, until the instrument met the resistance of bone at the back of the spheno-maxillary fossa. By this means the nerve was also intentionally stretched. The instrument was moved about with the design of loosening or breaking up Meckel's ganglion. Long, curved scissors were then introduced, and the nerve, which was fixed with a pair of fine forceps, cut off close to the foramen rotundum, about three-fourths of an inch being removed. Hemorrhage had been quite free, but was arrested by pressure and torsion.

The edges of incisions were united by means of silk sutures, and a dry compress applied, after the cavity of the antrum had been throughly washed with carbolized water (1 to 20).

One hour after the operation, the axillary temperature fell to 95.4°, and the respirations to eight. A hot-air bath, and atropia gr. 1/8 hypodermically, were administered, and in a few hours both respiration and temperature were normal. It was subsequently learned that the patient was very susceptible to the influence of opium.

There was no return of the pain, with the exception of a small amount in teeth of the lower jaw, and on March 10th the patient was discharged, cured.

*Microscopical examination.*—The portion of nerve removed was examined by Dr. R. W. Amidon, who reported that the fibres from the peripheral end—the stump of the former operation—were swollen, very granular, the myeline much broken up, and showed many empty sheaths of Schwann. The fibres from the centripetal extremity, and from the trunk of the nerve, were some of them normal, but many were like those at the periphery. Connective tissue nearly normal.

DR. POORE then read his paper on

### OSTEOTOMY FOR GENU VALGUM.

(See p. 172.)

DR. WEIR, in discussing the subject, referred to Delore's experience, who had reported four hundred cases in which the success had been very remarkable. His method was to forcibly straighten the limb, tearing through the junction of the epiphyseal cartilage of the femur. He thought the French observers had proven, and it had been proved by Delore's cases, that the ligaments of the joint are not disturbed, and that the separation does take place at the point desired. Similar excellent results had been obtained with more exactness by Collin's apparatus for *redressement forcé*. In the cases in which such results, either by manual or instrumental effort, were obtained, the patients were quite young; but when twelve or fourteen and over, the condition of the parts is very different, and it has been thought to be wisely abandoned as a method of treatment past the ages named. Billroth and Nukerlicz give the results of experiments on the adult cadaver, nineteen to twenty-three years of age, in nineteen cases, and in ten there was rupture of the external lateral ligament. Santi, in twelve experiments made on cadavers, eighteen to twenty-two years of age, ruptured the external lateral ligament nine times.

In living adults or adolescents, in which the operation of forcible straightening had been done, considerable weakness of the joints resulted, which continued for a long period of time.

Returning to the patient presented by him, whose legs had been successfully straightened by the osteotomy, Dr. Weir raised the question: Whether the slight serous synovitis now existing should be attributed to over-exercise—the boy walking about in less than ten weeks, the time assigned by Macewen—or whether it might not be attributed to an accident in the operation (which had occurred, he had understood, with others in the city, without untoward consequences)? In using Dr. Poore's chisel, which was much more slender than Macewen's, he had made, involuntarily, a cross or prying motion, the effect of which was to chip off a small piece of the chisel. The wound healed, however, as promptly as the other. He was inclined to the belief that the synovitis was due to premature and too great use of the limb.

With regard to the more recent question of the suppuration, the experience at present was on the side of antiseptic treatment, that is the majority of cases have been so far conducted under that method, and it has, therefore, not been possible to collect an equal number of cases on the other side. But, as presented, he did not think the report afforded any special encouragement to depart from Macewen's directions. Macewen has performed osteotomy eight hundred times, for different conditions, under Listerism, and has had only *three* deaths, and those were after osteotomy for genu valgum, which he has performed three hundred and sixty-seven times. But in neither of the three cases could the fatal termination be said really to be due to the operation, for one died of pneumonia, one of tubercular meningitis, and one of diphtheria. Dr. Weir's own feeling had been that the use of the spray in this operation could not be dispensed with so safely as in an amputation wound, for instance, where all the parts could be freely bathed with the carbolic solution used.

Dr. Poore thought that the separation in Delore's plan was not confined to the femur. In some cases the epiphysis of the tibia has been separated, and in some the fibula has been torn off.

Dr. Weir mentioned two cases, one of seven years and one of three years of age, in which Delore made the post-mortem, death occurring in one on the second day, and in the other on the thirtieth day, and in both the separation had occurred through the epiphyseal junction, no damage being done to the joint. While regarding with favor Macewen's femoral osteotomy, and rejecting Reeves and Ogston's method, he felt that it was just to give, what the English and American surgeons have not yet done, a fair trial to the milder method of the French surgeons.

Dr. Briddon referred to a case in which synovitis occurred two or three months after the operation, and was the result evidently of passive motion carried to a greater extent than it had been done previously. There remained permanently a certain degree of rigidity. Perhaps too much movement on the part of Dr. Weir's patient gave rise to the synovitis. He also thought that the condition of the limb after osteotomy was very much like that which exists in compound fracture.

Dr. J. C. Hutchison exhibited a set of chisels and a mallet devised by Macewen for performing his operation. He had performed the operation three times, and had followed rigidly the directions which Macewen has given, because he believed that it is only just to the author of an operation to follow his directions strictly. Two of the operations were performed upon the same patient. In consequence of a rise of temperature he removed the plaster-of-Paris dressing from one limb on the third day, and in doing so removed the clot which occupied the surface of the wound, and the wound healed by granulation subsequently. Nothing was found in the wound to account for the elevation of temperature. The opposite limb was not disturbed until the end of four weeks, when the dressings were removed and the wound was found entirely healed.

The dressings were removed from one limb in another case at the end of four weeks, and it not being as straight as he desired, Dr. Hutchison bent it a little and then reapplied the dressings, which remained two weeks before removal, when the patient immediately flexed the knee, on the next day made a few steps, and on the second day walked half way across the ward, which was thirty feet long. No unfavorable symptoms developed in the first case. In both cases fenestra were left in the plaster dressing when it was applied. In the second case, cellular tissue projected from the wound, and it was excised as Macewen directs. In the second case, also, the dressing was removed at the end of twenty-eight days, and the boy flexed the knee at once. He also was taken out of bed the next day, and at the end of six weeks walked very well. In neither of these cases was restraint made after that length of time, and the limbs still remained in the position desired. With the exception of the dressing, he used the full antiseptic treatment. He simply covered the opening with a Lister dressing, and over that placed marine lint. No suppuration occurred in either case.

Dr. Hutchison thought that osteotomy by Macewen's method should not be regarded as parallel with compound fracture, for there is not the same grave disturbance of the soft parts. He also thought it was a simpler operation than fracture with the osteoclast; that the soft parts are much less damaged, etc. As he recalled the reports of the early operations, by forcible separation, not only was the epiphysis of the femur torn off, but that also of the tibia was separated not infrequently, and in adults rupture of the external lateral ligament has occurred, which, as already stated, makes the knee-joint almost useless. He was inclined to regard Macewen's as one of the minor operations in surgery.

In his cases the bones were extremely hard. The deformity originated in rachitis, and the bones were in a condition of eburnation. Dr. Hutchison directed special attention to Macewen's plan of making the cut in the bone, viz.: first, depress the handle of the chisel; then bring it up to a level with the tranverse axis of the bone; and lastly, elevate the handle, thus making with the three movements a fan-shaped opening.

Dr. A. C. Post referred to a case in which, for the correction of bow-leg, he made an incision over the fibula and tibia, divided the bones and applied a felt splint. At the end of three weeks he found that the child had complained of pain, and on examination he found, to his surprise, quite free suppuration on the skin higher up, which had evidently been produced by pressure from the splint. The pus was evacuated by a free incision and the wound soon healed. The bones consolidated without accident. An accident of that kind might lead to the belief that the mischief was greater than it really was.

The President referred to a case in which he performed subcutaneous osteotomy of the femur for

anchylosis of the hip-joint, about ten or twelve years ago, before the days of antiseptics. The operation was that known as Adams', and in the case referred to was a long one, on account of the density of the bone. Only one dressing was applied, and the wound healed without suppuration.

While in Paris, last summer, he had an opportunity to witness the working of Collin's osteoclast in the treatment of genu valgum, and it seemed to him that the instrument worked with admirable precision, and, so far as he could judge, with safety. He saw it used upon two patients; in one, both limbs were operated upon, and in the other, only one.

The apparatus consists of three wooden stocks, which embrace the limb at the middle of the leg, the middle of the thigh, and at the knee, the latter one being movable transversely, and the power applied by means of compound pulleys acting on the end of a long steel lever. The limb is so placed that it is almost impossible for it to rotate, and the force is applied very gradually until a cracking is heard, and then continued until the deformity is over-corrected, when the apparatus is removed. Dr. Sands could not discover any signs of ecchymosis caused by the operation. He also saw two children upon whom the operation had been performed two months previously. In one the result was perfect, in the other it was not, and in that case the operation was repeated. The interne of the hospital where he saw the instrument used had made a special study of the working of Collin's osteoclast, and stated to Dr. Sands that the result obtained from its use was always the same. He also saw the lesion which the instrument produced in the dead-house. Two children were made the subjects of experiment, and in both instances the lesion caused by the osteoclast was found to be the same, namely—partial separation along the epiphyseal line of the condyle of the femur. There was no lesion of the epiphysis of the tibia, and the interne stated that this never happened. It was also found that the separation did not take place along the entire extent of the epiphyseal junction. On the outer side there was slight gaping and the periosteum was ruptured, but there was no rupture of the ligaments, and no rupture of the periosteum on the inner side. It seemed, therefore, that the deformity might be corrected by an insignificant lesion, and if the results were uniform, such as were claimed, the procedure would be preferable to any cutting operation involving the risks attendant upon an open wound.

CLUB-FOOT—NEW METHOD OF OPERATION.

Dr. A. C. Post narrated a case of a child, three months old, that was brought to his clinic, suffering from talipes vaso-equinus, and in which there was a degree of rigidity with which he had not met before. He divided the tendo Achilles and found that but little was gained, and he then determined to operate in the manner preferred by Dr. Phelps, of Chateaugay, N. Y.—that is, by making an open incision across the sole of the foot and dividing all the resisting structures down to the bones. He accordingly made a slightly oblique incision from within outward, and cut every resisting band, and after the operation he was able to bring the foot nearly into its normal position. Lint wet in carbolized water—one to forty—was interposed between the edges of the wound and a bandage applied, without making much effort to rectify the position of the foot. There had been an exceedingly small amount of irritation. Dr. Post was inclined to think that in the class of cases in which there is extreme rigidity, when the result of the ordinary operations or treatment would be somewhat doubtful, that the proposed method of operation would be an advancement.

Dr. Post presented photographs of a patient upon whom Dr. Phelps had operated in the manner described, and the wound healed within three weeks without constitutional disturbance. As illustrated, the deformity was almost completely corrected.

Dr. L. A. Stimson remarked that if the pathological condition in these cases consisted in a defect in the astragulus, he was not able to understand how the operation was calculated to remove it.

Dr. Post said that it did in Dr. Phelps' case; and the degree of success was vastly greater than could be obtained by any other method in the same time.

Dr. Post also presented a

LYMPHATIC GLANDULAR TUMOR,

removed from the axilla of a child three years old. It was extremely deep-seated, and was exceedingly difficult to remove, because of its being wrapped about with blood-vessels. He did not recollect having seen a non-malignant growth in this region the relations of which were so closely united with the blood-vessels as in the present case.

The society then adjourned.

## NEW YORK ACADEMY OF MEDICINE.

*Stated Meeting, May* 19, 1881.

Fordyce Barker, M.D., LL.D., President, in the Chair.

The Librarian acknowledged the receipt of six hundred and ninety-seven bound and seventeen unbound volumes. Of these, five hundred and ninety volumes constituted the medical library of the late Dr. Anthony Gescheidt.

The thanks of the Academy were extended to the family of the deceased.

Dr. F. A. Castle, on behalf of William H. S. Wood, presented a basaltine bust of Dr. John Fothergill, and also, on his own behalf, a portrait of J. Milner Fothergill.

The donors received the thanks of the Academy.

The Corresponding Secretary acknowledged the receipt of a variety of medical certificates from Dr. Ward Francis, of Newport, and, on motion, the thanks of the Academy were extended to Dr. Francis.

The President ackowledged the receipt of checks to the amount of $1,250, to be used in liquidating the outstanding mortgage, and the Treasurer was instructed to transmit the thanks of the Academy to each of the donors.

Dr. E. G. Janeway then read a paper, in which he gave

THE HISTORY OF THE OUTBREAK OF TYPHUS FEVER IN NEW YORK,

so far as information upon the subject had been obtained. As a preliminary step, reference was made to mortality records, and a study of them showed that the existence of typhus in this city in previous years had been greater apparently than in reality. For example, many German physicians wrote upon the death certificate "typhus," without adding abdominalis or some other qualifying word, when death was really caused by typhoid fever. During the years 1878–79–80, returns of death from typhus fever had

been made in only four cases for each of the first two, and three for the last year. There was, however, danger lest a false security be accepted because no known case of importation existed. Dr. Janeway then gave certain details of cases which had a bearing on the question of the

SPONTANEOUS ORIGIN

of the disease. A family of adults living in a tenement-house of the ordinary type were attacked, and the history of the sickness, the character of the eruption, and the autopsy of the mother, proved the disease to be typhus fever. Moreover, although he had cautioned the nurses and the attendants, one of the latter contracted the disease, but recovered. A number of the members of another family were sick, and close inquiry elicited the information that the father had had what was supposed to be pneumonia, but had relapses. In both families the sick occupied inner bedrooms, and the windows were kept closed, through fear of taking cold. A boy in a room above the second family was sick with what an old physician said was old-fashioned "ship fever." Beyond those places it was absolutely impossible to trace the origin of the disease.

In those cases there was a continuous fever, which had all the elements of typhus fever. It attacked adults, was contagious, was communicated to nurses, and at autopsy there was absence of lesions of the bowels.

Dr. Janeway gave an account of the existence of typhus fever in Philadelphia during the last autumn and winter, and also in Camden, N. J., as proved by autopsies made by Dr. Tyson, and examinations made by Dr. Pepper, of Philadelphia.

Statistics concerning the existence of the disease in Dublin, Liverpool, and St. Petersburg, were then read, showing that cases had been in those cities during the last autumn and winter—in the last-named city, ten to thirty deaths occurred weekly, and in Dublin the number of deaths from typhus fever reached ten in some weeks.

Prior to the active outbreak in New York, the disease existed in more than one place in New York; but the outbreak might be said to have begun in the week ending March 19, 1881, in the Shiloh Shelter, and from that lodging-house thirty cases came. Of the first fifty-six cases probably many other physicians could give more or less complete histories of a large number of them.

The first autopsy was made March 19, 1881, on the body of a man who died March 17, 1881, in Bellevue Hospital. There was absence of the lesions belonging to typhoid fever and remittent fever, and the conditions described as present in typhus fever ordinarily existed.

Two hundred and seventy-three cases had been admitted: two hundred and thirty-five males and thirty-eight females. There were sixty-four deaths: fifty-five males and nine females. Under the age of fifteen there were 8 cases and no deaths; between fifteen and twenty, 17 cases and 3 deaths; twenty and twenty-five, 44 cases and 5 deaths; twenty-five and thirty, 48 cases and 6 deaths; thirty and thirty-five, 38 cases and 10 deaths; thirty-five and forty, 41 cases and 9 deaths; forty and forty-five, 28 cases and 10 deaths; forty-five and fifty, 15 cases and 5 deaths; fifty and fifty-five, 13 cases and 4 deaths; fifty-five and sixty, 7 cases and 5 deaths; sixty and sixty-five, 5 cases and 1 death; sixty-five and seventy, 6 cases and 3 deaths; seventy and seventy-five, 2 cases and 2 deaths; seventy-five and eighty, 1 case and 1 death. The cases from Hart's Island, all tramps, showed the greatest percentage of mortality; there were eleven cases and eight deaths.

The disease spread almost entirely by personal contact. There were certain cases which were variations from this general rule. Certain cases were then related which showed that some persons were much more susceptible to the poison than others.

No physician had contracted the disease. Of the orderlies and nurses, eight had contracted it.

The measures adopted to prevent the spread of the disease have been removal of the patients, thorough fumigation of the apartments and burning of the clothing, and subsequent regular inspection of the places from which the patients came.

Dr. Janeway then spoke of the desirability of legal authority to enforce internal quarantine. The treatment had consisted chiefly in administering milk and beef-tea, and using Kibbie's cot or cold sponging, and giving the patients fresh air in tents.

He also spoke of the undesirability of cheap lodging-houses, where the tendency was to take in as large a number as possible. A limit should be placed upon the number who were to occupy one room, and an ordinance had been passed by the Board of Health requiring three hundred cubic feet of air-space for each lodger. There should be a pavilion attached to each hospital, with separate rooms, where cases could be placed to await the development of the disease, or removal.

Dr. Janeway then referred to four cases of

DIPHTHERIA,

the histories of which were so peculiar that he wished to place them on record.

Last autumn he saw in consultation in Brooklyn, in a large, well-ventilated house, open upon all sides, a child sick with diphtheria. The patient died on the following day. Shortly afterward another child sickened with the disease, and also died. Soon afterward the family went to Aiken, S. C., and there all the members took cold, but no diphtheria developed. From there they went to Pilatka, Fla., and shortly after their arrival a trunk was opened and a woolly rabbit taken out and given to the children to play with, and within three days another child sickened with diphtheria, and died at the end of a week. The remaining child was removed to Jacksonville and Sandford, where no diphtheria had existed, but at the end of *five* weeks this child was attacked with the disease, and died.

The PRESIDENT, in bringing the paper before the Academy for discussion, remarked that it was but just to say that one of the medical gentlemen constituting the Health Board had done his duty thoroughly with regard to typhus fever.

DR. AUSTIN FLINT remarked that the facts set forth in Dr. Janeway's paper touched important etiological questions; and, first, whether typhus fever required always a specific cause—or, if you please, a germ—developed in the body of one affected with the disease, or whether its special cause was capable of being produced *de novo* by the occurrence of peculiar conditions at certain times and in certain places.

That was still an open question, and facts could be adduced which sustained an answer given in either the one or the other direction. Many years ago he met with an instance, and reported the same, in a part of the country where typhus fever had never been known to occur, and there were several cases.

Those cases developed in persons living in small rooms, without regard to cleanliness or ventilation, and were typhus fever, as proved by the eruption and autopsical examination; but it was impossible to trace the disease to importation; and yet, perhaps it was the more rational supposition that in some way the germ was received, than that the disease was developed *de novo*. Dr. Janeway has observed analogous instances. But assuming, for the sake of study, that the introduction of a germ was necessary, it had not yet been ascertained how long that germ might retain its vitality. Perhaps it might retain it for years, waiting for the combination of circumstances favoring and necessary to its development. How long could it remain latent and retain its vitality? was an important field for inquiry. Might it or might it not retain its vitality, like seeds which had for scores and hundreds of years remained inactive, and yet developed plants when exposed to the conditions necessary to growth?

Another important point related to exposure to the contagion. Evidently something more than mere exposure was required. There was a vast difference in the susceptibility of different persons to the *contagion* of typhus fever.

With regard to the prevention of the spread of the disease, Dr. Janeway had not presented evidence of the success obtained by the Board of Health in stamping it out; but doubtless that object would be accomplished ultimately. Isolation, cleanliness, disinfection, and ventilation were the powerful means by which this end was to be attained.

In conclusion, Dr. Flint said that he could not refrain from speaking of the noble work done, in years past, by the Health Board of the City of New York. Its labors against cholera, and more recently in stamping out small-pox by isolation, disinfection, and vaccination, were worthy of special and honorable mention.

Dr. Alfred L. Loomis remarked that he had been deeply interested in the history given so carefully by Dr. Janeway, for the reason that it brought to mind his own experience in connection with the outbreak of typhus fever, more severe than the present, which occurred in this city in 1862. At that time he had charge of the fever wards in Bellevue Hospital, and in a single day fourteen patients with typhus fever were brought in from various parts of the city, but the majority of them came from the region of Baxter street. A tour of inspection was immediately begun, and finally he traced the disease to the upper story of a tenement-house in Mulberry street, in the most filthy portion of this city, where a little girl was sick, who sickened on board of a ship that had typhus fever on board, and came from Ireland.

He did not believe that it was necessary, in explanation of a severe outbreak of typhus fever, to trace it directly to importation at the time of the outbreak; but he was convinced, from the history of the disease, so far as the literature was concerned and so far as his own experience extended, that it was a disease which was indigenous to certain localities; that in certain localities it might always be found; and that, when it was developed in localities where it was not indigenous, it was the result of importation, and the same might be said of yellow fever. We did not expect that disease to appear in this city spontaneously, and yet it would spread rapidly here when atmospheric and other conditions were favorable for its spread and development, after it had once been introduced. It was quite probable that typhus fever entered New York oftener than was generally supposed; but, it was necessary that certain conditions be present in order that the poison might become effective in reproducing the disease. He believed that the poison might remain dormant, perhaps for two or three years, and then under favorable conditions develop the disease.

The paper brought up three questions:

*First.*—Was typhus fever ever of spontaneous origin?

*Second.*—Was it ever transmitted from one person to another, except by direct contact?

*Third.*—What were the most certain means of arresting its development and spread?

From Dr. Janeway's history of the present outbreak and spread of the disease, it would seem that most of the cases were the result of direct personal contagion. In no instance has he been able to trace the disease to importation. Indeed, it would be impossible for any observer to trace all cases to their origin. For, as stated in the paper, a large percentage of those attacked by the disease were "tramps," and New York was well adapted to receive "tramps" from all parts of the country, and it was almost next to impossible to trace any disease appearing among them. The difficulties in deciding the question whether or not typhus fever was of spontaneous origin in a large city were almost insurmountable. The cases reported by Dr. Flint were perhaps the strongest on record; and yet, with only a few such cases, we were scarcely justified in regarding the disease as one of spontaneous origin.

With reference to conveying the disease by personal contact or clothing, the following were the facts concerning the outbreak in 1862. No employee in the hospital who was brought in contact with the clothing of fever-patients contracted the disease. Every one whose duty it was to carry the fever-patients from the reception-room to the hospital took the fever. Every physician and nurse who had the care of typhus fever patients contracted the disease; those who were on the surgical side escaped. Every clergyman, with one exception, and he kept at a good distance, who came to administer to the patients in the fever ward, contracted the disease.

Those facts differed from those given by Dr. Janeway in connection with the present outbreak. There must have been a difference either in the intensity of the poison or in the exposure of the individuals. Besides, the less number of cases among the attendants upon the sick, both physicians and nurses, was doubtless due considerably to the fact that medical men know better now than formerly how to care for themselves under such circumstances, with reference to ventilation, etc. No doubt that typhus fever poison might be conveyed by clothing, but, in order that it shall become sufficiently intense to develop the disease, there must be personal contagion or exposure.

Dr. Loomis believed that it was not so much idiosyncrasy that exempted certain persons—except the occasional persons who were apparently exempt from infectious diseases of all kinds—from typhus fever, as it was feebleness of the exposure to which they were subjected. In other words, it was the intensity of the exposure rather than individual idiosyncrasy that regulated the contracting of the disease.

With reference to preventing the spread of typhus fever, he thought that we did not yet know of anything which equalled fresh air in neutralizing the influence of the poison. Its spread could not be prevented by disinfection while persons sick with the disease remained in the building. Thorough quarantine was

necessary, not only of the sick, but of the well, until it was determined whether or not those who had been exposed were to have the fever. To remove the danger from rooms they must be not only disinfected, but exposed fully to the continued influence of fresh air.

Another interesting fact in Dr. Janeway's statistics was the greater rate of mortality among those who had passed the middle period of life.

Dr. John C. Peters said that he had listened to Dr. Janeway with great pleasure, for several very important points had been brought out by his paper. The first was that New York had had more true typhus fever than London, Liverpool, or Dublin; and that it commenced here before it did in Camden or Philadelphia. There was no proof whatever that the disease was imported here, and no death among newly arrived emigrants from it had been discovered. It arose among our own people, and in all probability from our own filth; for New York was very filthy last fall and winter, and was so still this spring, notwithstanding the so-called tremendous effort at street-cleaning which was forced upon the Police Department by the Committee on Hygiene of the County Medical Society, the Society for Sanitary Reform, the mass meetings of citizens and physicians, and the heavy pressure of the whole newspaper press.

The seeds of the disease were sown so widely that the Board of Health was taken by surprise by the sudden explosions of the disease in various quarters, and if it had not been for the active and skilful action of Dr. Janeway, aided by the better street-cleaning forced upon the officials, the almost certain outbreak of a great epidemic would have been witnessed. Some physicians doubt the independent, or *de novo* origin of a contagious disease, but appeal to obscure germs. But typhus fever is a miasmatic contagious disease, arising from a miasm caused by filth, and subsequently becoming contagious.

The more common cause of typhus has been decreed to be overcrowding and bad ventilation; but filth is always an essential factor. Murchison says, p. 115: "Personal squalor and filthy apparel saturated with cutaneous exhalations greatly aggravate the bad effects of overcrowding, and may be necessary for the production of the poison of typhus."

Even the vile lodging-houses, where the disease finally centred itself, and their inmates, were more filthy than usual, owing to the foul condition of the streets and gutters; and the air of these places was more noxious, because the streets around them were filthier than usual, perhaps than ever before.

The poison of typhus fever is more readily discharged than that of any other contagious or eruptive disease. It requires very free ventilation with pure air, and washing of the person and clothing of the patients with clean water. Simple fumigation of apartments destroys the contagion which lingers there. But no pure air or pure water has been obtained in New York for some time past. Two measures seem sufficient to prevent the spread of typhus, viz., the most complete ventilation with pure air, immediate disinfection and cleansing of clothing.

Besides, the sanitary inspection of these lodging-houses must have been very imperfect, for, on the authority of Dr. Buchanan (see Reynolds' "System of Medicine"), the inspection of lodging-houses in London has long been so perfect that few or no cases occur in them. In one great London epidemic only twenty-four cases came from lodging-houses, while great numbers came from the dwellings of the poor. Again, sec. 67, chap. 335, Laws of 1873, says: "The inspector of street-cleaning is required to perform such additional street-cleaning as in the opinion of the Board of Health is necessary to keep the streets, avenues, and public places clean."

But all this is in a manner somewhat compensated for by the activity, courage, and skill of Dr. Janeway when his attention was once aroused.

To return to germs, it is not necessary to seek for them when we have thousands of tons of street, gutter, and privy filth in the front and rear of all the houses in the poorer parts of the city; and decomposing organic matter of the filthiest kind, vegetable and animal, is a far more potent factor in the creation of miasmatic contagious diseases than a few problematical germs. Neither did he believe in occult influences of the atmosphere, except such as are produced by the filthy ground and people all around us. The atmosphere is pure, except for the contaminations which rise into it from the foul swamps, drains, villages, cities, barn-yards, stables, out-door privies, and filthy people and cattle. It is impossible to look at the pure skies above us and have any other rational view. Even sunstroke and cholera infantum are most apt to occur in hot, impure air; and pneumonia and diphtheria in cold, foul air. Filth adds to the severity and frequency also of the purely contagious diseases, and it is purely childish to assume that small-pox, scarlet fever, measles, etc., cannot be rendered more dangerous and even abundant in air which is foul enough to produce true typhus fever, and impress a typhoid character even upon bronchitis, pneumonia, and diphtheria.

Murchison devotes several pages and gives many instances of the spontaneous origin of typhus fever from filth alone. He had expected, as there had been famine and distress in Ireland, followed by great emigration here, that typhus in the shape of ship fever would be brought here. But all the evidence tends to show that it originated here from our own filth, for which the Street-Cleaning Department and the Board of Health are directly responsible.

Dr. Janes answered a question asked by Dr. Peters, by saying that, at the Shiloh Shelter there was a bath-room, a wash-room, and opportunity for washing clothes was provided. The question had been asked, why not close the house as soon as typhus fever appeared there? It was thought, upon the whole, that, if kept open and inspected day and night, in order that cases as they were developed might be taken in charge there rather than be scattered through the city, the spread of the disease would be restricted rather than favored.

Dr. Gouverneur M. Smith thought it accepted that atmospherical conditions, perhaps not yet fully understood, favored the development of various diseases, especially of the variety under discussion.

Dr. Janeway thought that one reason, aside from a certain amount of idiosyncrasy, why physicians in the present outbreak had not been attacked by typhus fever, was that they were in better hygienic and physical condition than had been the case in many epidemics, and he also believed that men were less liable to the disease than women. In answer to a question asked by the President, he said that none of the patients in the Maternity Hospital had had the fever.

With reference to the influence of dirty streets, he did not believe that contagious diseases were spread in any great measure by them. Cleanliness does something toward eradicating typhus fever.

The President referred to two cases under his own

observation, in which it was evident that the clothing contained the poison of typhus fever and gave rise to the disease. A gentleman had typhus fever severely. A woman who washed his clothes contracted the disease and died. No person in attendance upon the patient contracted the disease. The husband of the woman and his sister took the disease and recovered.

The other instance was similar, and cases of that character proved that the disease might be propagated by clothing.

Dr. Charles Carroll Lee referred to the one thousand ovariotomies performed by Mr. T. Spencer Wells, with seven hundred and sixty-nine recoveries, unprecedented in number; also to the fact that the illustrious surgeon is a foreign member of the New York Academy of Medicine, and his marble bust adorns its hall, and offered the following resolutions, which were seconded by Dr. A. C. Post and unanimously adopted:

*Resolved*, That the congratulations of the New York Academy of Medicine be transmitted to Mr. T. Spencer Wells, a foreign Fellow of this society, for his remarkable and unprecedented achievement of one thousand ovariotomies, by which the lives of seven hundred and sixty-nine women have been saved.

*Resolved*, That a copy of these resolutions, properly authenticated by the President and the Secretary, be forwarded to Mr. Wells.

The Academy then adjourned.

## Correspondence.

### TREATMENT OF STRICTURE OF THE STOMACH.

To the Editor of The Medical Record.

Dear Sir—The following cases of interest to the profession were reported to the Minnesota State Medical Society, a copy of which I herewith transmit for publication if you deem it sufficiently worthy.

Case I.—About March 15, 1880, I was invited by Dr. A. W. D—— to see a patient (aged about one year) who was suffering from stricture of the œsophagus, low down, caused by swallowing concentrated lye five months previous. She was unable to take any nourishment per mouth, and was sustained by nutrient enemata. We attempted to pass a No. 8* urethral bougie, but failed. We then gave ether, with no better success. Five or six days afterward I was requested to take charge of the case and attempt dilatation. This I reluctantly consented to do, having no hope whatever of success. At the first sitting I succeeded, after some effort, in passing the stricture with a No. 5 urethral bougie, and followed it in a few minutes with No. 6. On the following day I succeeded in passing Nos. 6 and 7, and each succeeding day a larger size, until I was able to pass No. 10. At my second passage of No. 10 a too rapid and forcible removal of the bougie occurred in the hands of another, whom I allowed to remove it, to show how firmly it was held by the stricture. As a consequence, the next attempt at introduction of the bougie was followed by the appearance of blood, and succeeding attempts by blood and pus, so that I was compelled to suspend operations for several days. The parts gradually healed, however, and in the course of a week or ten days I was again able to pass a small bougie; but it was not until May 19th—two months after commencing treatment—that I was able again to use even a No. 9 bougie. I then taught the mother how to pass them, and resigned this part of the treatment into her hands. By July 18th she had increased the size to No. 11, by October 28th to No. 13, and by February, 1881, to No. 14, which she is still using, I being as yet unable to get bougies of larger size that are of any use. The bougies that have served me best are the ordinary elastic hollow urethral bougies, stiff and hard with age, easily softened by warming, but retaining firmness and elasticity, and, if they become too limber with use, permitting the introduction of a smaller one within. The solid conical bougies have not served me well, being so limber after once or twice using as to double in the back of the pharynx and allow no pressure to be exerted on their point.

The patient at present has every appearance of perfect health; is able to eat, with careful mastication, all kinds of food, and there seems every reason to anticipate for her an ultimate complete recovery.

Case II.—About the time of my undertaking the treatment of the above case, the following similar one came to my knowledge, and served as a stimulus to persevere in my treatment. The subjoined history was obtained in substance by correspondence with the parents of the child. L. M. C——, aged six years, when sixteen months of age swallowed concentrated lye, and after a time it was noticed that she had some difficulty in swallowing, and finally was unable to take even liquid into her stomach. Her parents "consulted head doctors of medical schools" by the advice of their physician, and each pronounced her case a hopeless one. The physicians attempted to pass "tubes into her stomach, but failed, and said she must die." The father then procured a set of bougies and attempted to pass them himself, and succeeded in passing one the "size of a knitting-needle." Sometimes he was unable to pass this for days at a time, at other times it would be an hour before he was able to pass the strictured portion. He learned of the exact position and shape of the stricture by getting her to swallow milk, and immediately after vinegar, which formed a curd; he then playfully threw her over his shoulder, with head down, when she immediately coughed up this curd, a perfect cast of that part of the œsophagus immediately above the stricture, showing him a deep pocket with the stricture on one side, and its opening about the size of a pin. This knowledge enabled him to manipulate the bougie so as to enter the stricture more readily. After passing the bougie a few times she was able to take liquid nourishment, and they then would not pass it again until she "choked up." After a time, however, they passed it more regularly, and for a period of three years, up to the fall of 1879, when they abandoned the tube, never having been able to use a larger than No. 8. This patient is reported able to eat all kinds of food, and is considered to be in perfect health by her parents. These two cases certainly illustrate what may be accomplished by courage and perseverance in the use of the dilator. In my researches after successful cases of treatment by this method, I find but one other. See "Cohen on Diseases of the Throat," fol. 296. I would be glad to learn of others, if there are any.

Respectfully yours,

J. Henry James, M.D.

St. Peter, Minn.

* Sizes designated herein are according to the American scale.

## ARMY NEWS.

*Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from July 24, 1881, to August 6, 1881.*

ALEXANDER, CHAS. T., Major and Surgeon. Granted leave of absence for fifteen days, from 19th inst. S. O. 98, Department of West Point, July 15, 1881.

GARDNER, EDWIN F., First Lieut. and Asst. Surgeon. Relieved from duty in Department of Dakota, to proceed to Eastport, Me., and on arrival there report by letter to the Surgeon-General. S. O. 171, C. S., A. G. O.

HUBBARD, VAN BUREN, Capt. and Asst. Surgeon. Granted leave of absence for four months. S. O. 169, A. G. O., July 26, 1881.

KING, WILLIAM H., Capt. and Asst. Surgeon. Now awaiting orders at Greencastle, Pa., to report in person to Commanding General, Department of the East, for assignment to temporary duty. S. O. 171, A. G. O., July 28, 1881.

TORNEY, GEORGE H., Capt. and Asst. Surgeon. The leave of absence granted him from Headquarters, Department of the Missouri, June 21, 1881, extended one month. S. O. 76, Military Division of the Missouri, July 25, 1881.

GARDNER, EDWIN F., First Lieut. and Asst. Surgeon. The operation of Par. 3, S. O. 171, C. S., A. G. O., in his case, suspended one month. S. O. 177, A. G. O., August 4, 1881.

## Medical Items and News.

CONTAGIOUS DISEASES — WEEKLY STATEMENT. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending August 6, 1881.

| Week Ending | Typhus Fever. | Typhoid Fever. | Scarlet Fever. | Cerebro-spinal Meningitis. | Measles. | Diphtheria. | Small-pox | Yellow Fever. |
|---|---|---|---|---|---|---|---|---|
| July 31, 1881. | 10 | 19 | 100 | 4 | 44 | 100 | 9 | 0 |
| Aug. 6, 1881. | 2 | 8 | 93 | 7 | 28 | 113 | 27 | 0 |

SUBPERIOSTEAL EXCISION OF ULNA.—Dr. M. Kennedy, of Sherman, Texas, reports the case of a lad aged eleven years, who suffered from chronic ostitis of the ulna, the result of an injury three years previously. Dr. Kennedy performed the operation of subperiosteal excision, June 25, 1881, with good results. The parts healed kindly, and bone is now being reproduced at the upper and lower portions of the periosteal sac. Passive motion at the elbow was resorted to early, and the functions of the elbow, forearm, and wrist are well preserved.

INSANITY AS A PREVENTIVE OF MALARIA.—Dr. John M. Ward, Superintendent of the New Jersey State Lunatic Asylum, comments upon the curious fact that, notwithstanding the great prevalence of malarial and intermittent fevers, in the section of the country where the asylum is located, not a single case of malaria has appeared among the patients in the institution, who numbered last year 672. Several attendants and laborers were attacked with the disease, but not one lunatic. The explanation offered is, not that insanity is a protection against malaria, but that the insane patients are never allowed out of doors after nightfall. It may be that the malaria is not recognized.

THE DEATH OF PROFESSOR MAURICE RAYNAUD, which took place suddenly on the 30th of June, from angina pectoris, will be a matter of great regret to those interested in the International Medical Congress. Professor Raynaud was to have delivered the address in medicine, and had chosen for his subject "Scepticism in Medicine, Past and Present."

VACCINATION AMONG THE MOHAMMEDANS.—The wife of the Shereef of Morocco has, it is reported, succeeded in inducing the Moors to accept vaccination. The Shereefa, as she is called, performs the operation herself, and sometimes vaccinates as many as fifty a day. She is an Englishwoman, and retains her Christian faith.

THE DEATH OF M. CHANTREUIL, an accomplished obstetrician, took place recently. He was just engaged, in connection with M. Tarnier, in writing an extensive treatise on obstetrical science and practice.

SIR JAMES PAGET has been re-elected member of the council of the Royal College of Surgeons, England. Messrs. J. W. Hulke and C. Heath were also elected members.

THE REPORT ON VIVISECTION in England during the past year shows that three hundred and eleven experiments were made. Of these only thirty can be presumed to have caused any special pain. These were cases in which diseases were inoculated, the animals dying from the effects. Most of the other cases were simple inoculations, or were experiments performed on anæsthetized animals.

LEPROSY COMMUNICATED BY VACCINATION.—Small-pox at Honolulu is said to be decreasing. During the four months ending June 4th, there were seven hundred and sixty-four cases, of which thirty-six per cent. ended fatally. The Board of Health enforced a strict quarantine, and thus prevented the infection from spreading to the other islands. Unfortunately bovine virus was scarce, and hence vaccination could not be uniformly enforced, the Board having forbidden the use of human virus, through fear of communicating other diseases. On this point the opinion of Mr. Carter, president of the Board, is significant and, indeed, startling, if he has an adequate basis for his conclusions. It is his belief that of nearly eight hundred lepers sent to the leper settlement subsequent to the last small-pox epidemic, probably six hundred became thus diseased through vaccination with human virus. During the prevalence of the scourge, which has just subsided, strong complaints were made that the Chinese concealed cases of the disease until they became hopeless, and then turned them over to the Board of Health in order to escape the cost of burial and any unpleasant complications which might otherwise have arisen from the discovery of a corpse.

INVESTIGATING THE HEALTH OFFICER OF THE PORT OF NEW YORK.—The following resolution has been adopted by the State Legislature.

*Whereas*, It is alleged that the fees of the Health Officer of the Port of New York are exorbitant; that they aggregate $75,000 annually, and that a proper and searching investigation into the man-

agement of the department of the Health Officer of the Quarantine establishment will result in a great saving to the people; therefore

*Resolved*, That a special committee of five be appointed to investigate and ascertain the emoluments, and to examine into the administration of the Health Officer of the Port of New York, with a view of making the Quarantine Department self-sustaining, and passing such laws as may be in the public interest; and that said committee be authorized to sit during the recess of the Legislature and have power to send for persons and papers.

Dr. Smith was interviewed on the above subject by a reporter on the *Times*. It came out that the fees were less than $100,000 yearly, but how much less were not told. The monthly expenses, according to Dr. Smith, are $3,000. It appears also that a pilot at Quarantine receives $90 a month, an assistant physician $50 a month, and a fireman $40 a month. So, judging the capabilities of those employes by their salaries, a man sick on shipboard does about as well to get a prescription from the Quarantine fireman as from a Quarantine physician, and he is in rare luck if he can be attended by the pilot.

Dr. James D. Fitch, whose figure was a familiar one in the medical practice twenty years ago, died suddenly on July 20th, at his residence in this city, in the eightieth year of his age. Dr. Fitch was contemporary in medical practice in this city with the last generation of medical men, such as the late Dr. Budd, Dr. J. N. Francis, most of whom he outlived by many years. He retired from professional life some years ago, and passed the last decade of his existence in the quiet seclusion of his home, having amassed a competence by professional work. Of late years he was seldom seen at the meetings of medical societies and infrequently in general society, age having impaired his zest for scientific discussion and diminished his interest in medical topics.

New York Physicians at the International Medical Congress.—The city of New York seems likely to be well represented at the coming International Congress, and most of the visitors will read papers before the various sections. Drs. Fordyce Barker, Austin Flint, John G. Adams, E. C. Harwood, T. E. Satterthwaite, James R. Little, R. C. M. Page, Gabriel Grant, A. S. Purdy, Newton M. Schaffer, Louis L. Seaman, George M. Beard, H. S. Oppenheimer, G. W. S. Arnold, James R. Taylor, H. B. Sands, Paul F. Mundé, Edward Bradley, F. H. Bosworth, are among those who have sailed. Dr. Satterthwaite, we are informed, reads a paper before the Pathological Section, and will inform the Britishers as to what America has been doing in pathology. Dr. Bosworth has a paper on Operations on the Nasal Cavity. Dr. Beard presents the subject of Trance and Allied Nervous Conditions. Dr. Flint, Dr. Arnold, and Dr. Sands, are also said to have papers.

A State Investigation of Adulterations in Food.—Under the law recently enacted by the New York State Legislature, the State Board of Health were authorized to investigate the subject of adulterations in food, and they have already begun work. Inspectors have been appointed to collect and analyze samples of butter, beer, baking powders, bakers' chemicals, cocoa, cordials, canned food, confections, cereals, cheese, meat extracts, fish and fish extracts, fruit essences, ether, gelatine, honey, ice-cream, milk, molasses, lard-oil, olive-oil, quinine, sugar, syrups, soda-water, spices, spirits, tea, wine, and all pharmaceutical preparations.

It will be remembered that partial investigation of this kind was made some time ago by our City Board of Health. They found that in the case of sugar of one hundred and nine samples, forty-five only were thoroughly pure and good; fifty-one, however, contained only accidental dust, while eight were marked dirty, and five were dirty. Still, in no case was there any intentional adulteration, and all the samples were free from glucose, which substance is now largely introduced.

It is not likely that much which is really injurious will be found, though adulterations may be numerous enough. Still, in the matter of teas, coffee, spices, condiments, confectionery, and diseased or putrid meats, there is no doubt room for plenty of investigations.

Griscom's Fast.—At the beginning of the fast the experimenter weighed 197¾ pounds. At the end of the seventh day he weighed 179 lbs., loss, 18¾; thirteenth day he weighed 178¼ lbs., loss, 19¼; twenty-first day he weighed 168¼ lbs., loss, 29¼; thirty-first day he weighed 163 lbs., loss, 34¾; fortieth day he weighed 151¼ lbs., loss, 46¼. His abdomen, thigh, calf, arm, and forearm were measured on the first day of the fast, and on Sunday, the forty-second day. The measurements were as follows:

| | First Day. | Forty-second Day. |
|---|---|---|
| Abdomen | 43¾ | 30 |
| Thigh | 21 | 17⅛ |
| Calf | 16 | 12⅜ |
| Arm | 12⅛ | 10⅛ |
| Forearm | 11⅛ | 9⅜ |

No marked changes are given regarding the pulse, temperature, and respiration. He drank from twenty-four to forty-eight ounces of water per day. His strength continued till the end, and he often walked considerable distances during the last part of the fast.

He is said to have been watched by several reputable physicians, including Dr. Raines, one of the faculty of Rush Medical College.

Doctors Wanted.—On the Shetland Islands, says the *British Medical Journal*, there are, excluding the burgh of Lerwick, only six doctors to administer to the wants of a population of twenty-seven thousand.

Dr. F. R. S. Drake has been appointed clinical professor of practical medicine in the University Medical College in this city.

Medical Literature.—The *Philadelphia Medical Times* comments upon the growth of medical literature so-called. It says: "Using the *Index Medicus* as a guide, we find that in the world last year eleven thousand seven hundred doctors thought they had something new to say, or some new way of saying something old. Mostly they were moved by vanity, and surely the outcome is vexation of spirit."

Electrical Probes and Forceps.—The subject of gun-shot wounds and all that pertains to them is now exciting much attention. A new probe and forceps just devised by M. Trouvé comes in quite apropos, and is an instrument likely to be of great use occasionally, if it does what is claimed. It consists of two metal stems placed side by side, but separated by an insulator, and terminated by two very fine sharp points. Conducting wires are connected to the butt end of these two blades, and include in their circuit a small inverting battery and a tiny trembler bell. When the probe comes in contact with a metallic body in the wound, say a ball or spark of

metal, the circuit is completed across its points and the bell is rung, thereby announcing contact to the operator. The conductivity of bone, wood, or flesh, is too feeble to make the bell ring; but a fragment of metal serves at once to do so. Lead can be distinguished by the continuous ringing which it gives, owing to the penetration of the points into its mass; while iron or copper gives a jerky sound, and the approach of a light astatic magnet, suspended by a wire without torsion, will enable the surgeon to tell iron from copper.

The same arrangement has been applied by M. Trouvé to surgical forceps for extracting foreign bodies out of wounds, and the surgeon is informed by the trembler that he holds the body in their grasp. A recent notable case of extracting a steel spark from the eye of a Berlin workman by means of electro-magnetism deserves mention. The eye had become very much inflamed, and it was necessary either to extract the mote without delay, or remove the eye itself. Dr. Hirschberg, a Berlin oculist, succeeded in the former plan by inserting a soft iron probe into the eye until it touched the mote, and then, by magnetizing the probe with the help of an electro-magnetic coil, he was able to draw the dangerous intruder forth.

The Location of the Bullet in the President's Wound.—Dr. Bliss communicates the following as the most probable view of the course of the bullet:

He thought that it struck and broke the tenth rib and passed through it, cutting a hole through the wall of the great cavity. It bruised the liver, but whether or not it had broken through the covering of the liver, he did not feel entirely certain. He thought the ball had struck the edge of the diaphragm. The rib had turned the ball downward, and it had passed back from the cavity into the anterior wall of the abdomen. The short track of the wound along the inner wall of the cavity had been entirely covered by the adhesive inflammation, so that there was no escape of pus into the great cavity, but a channel from the ball to the outer openings of the wound.

Leprosy in California.—In reply to a letter from Dr. J. Nevens Hyde, asking information regarding leprosy in California, Dr. J. W. Foye, physician to the small-pox hospital and lazar house in San Francisco, has sent a very interesting history of the disease as it has occurred in his State. He says: "In regard to the subject of your inquiry, leprosy, I shall be but too happy to furnish you with all the data attainable from our records; at the same time would remind you of the fact that the subjects of the disease, with one exception, have been Mongolians, and unable to give other than the most meagre account of themselves, and we are often compelled to rely upon conjecture in fixing the age of the patient. I find by reference to the record that the first leper, Hoy Tong, was admitted July 5, 1871, and that he died on the 29th of September, 1875. Since that date fifty-one additional cases have been received—forty-eight males and three females—making a total of fifty-two cases to account for. The hospital was designed for the treatment of small-pox exclusively, and the leprosic have been admitted only when found necessary to relieve other public institutions, or perhaps the streets, of their presence. Three invoices, aggregating forty-five, have been sent by the authorities to China. Three have died of the disease, and one from accidental causes, and one escaped. One committed suicide, and one, a Caucasian, is still an inmate. The ages of the patients have been: between fifteen and twenty, 4; between twenty and twenty-five, 9; between twenty-five and thirty, 17; between thirty and forty, 13; between forty and fifty, 9.

"No record has been kept of the duration of the disease at the date of admission, nor of the length of time the patient had been in the country, an omission much to be regretted, and doubtless due to the fact that their detention here was but temporary and pending shipment. It is not an assumption to say they were, to appearance, healthy when they entered the port, the Chinese Six Companies being too keenly awake to their own interest in importing unproductive labor, but that they were the subjects of the disease in its incubation stage, as the date of shipment is an inference irresistible. The type of the disease is anæsthetic, tubercular, mixed, not given."

Regarding treatment, he says: "For the past two years alimentation has been our only treatment. The leper requires good nutrition, and wants it often. The ration of the American army is insufficient for his support until the last stage of the disease has been reached.

"Any opinion as to the number now in the city would be mere conjecture. I have seen none out of the Chinese quarter. It is less general than is commonly believed; yet the fact is a significant one that, on the 2d of June every known leper in the city was shipped for China, and before the end of the year fourteen new cases have accumulated upon our hands. The Chinese consul claims hospital rights for these people; the authorities resist the claim, and the courts are now adjudicating the question—Is it contagious? English writers in India say it is not, in the sense in which the term is usually employed, but the Chinaman, who has been familiar with the disease and its traditions for centuries, avoids the leper with great care, and will stand for hours rather than occupy a seat that had been vacated by one.

"The leper maintains the most profound silence upon the subject of heredity. I have seen but one who admitted its existence as a family taint, and he would, it is probable, have denied it had not the inquiry been made prior to a conference with his fellows in the lazarette."

National Dental Association.—The second annual meeting of the National Dental Association was held in this city, August 9th and 10th. President Northrop, of New York, in the chair. There were about thirty members in attendance. Dr. F. M. Odell read a paper on "Lithiasis," and Dr. M. L. Rhein followed with one on "Dental Education." These papers were then discussed by the members generally. On the second day the following officers were elected for the ensuing year: President, John B. Rich, of this city; vice-presidents, J. B. Patrick, of Charleston, S. C., J. H. Smith, of New Haven, Conn., D. W. H. Dwenelle, of this city, J. R. Walker, of New Orleans, F. A. Levy, of Orange, N. J.; assistant secretary, F. M. Odell; assistant treasurer, John Allen, of this city.

Dr. Patrick, of Charleston, read a paper concerning a peculiar case of interstitial growth of a tooth. The paper was then discussed by Drs. Abbott, Walker, Patrick, Buckingham, and Odell. A paper read by Dr. Walker, of New Orleans, on "Tooth Culture," was discussed by Drs. Dwinelle, Allen, Abbott, Patrick, Hunt, Ambler, Winecler, and Swift. The association then adjourned until August, 1882, when it will meet in Washington.

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## THE INTERNATIONAL MEDICAL CONGRESS.

The recent Medical Congress in London was the largest and most important one which has yet been held. This was anticipated by the elaborate arrangements of the Executive Committee, by the interest which it developed in the subjects to be discussed, and by the pains which it took to secure the attendance of the representative medical men of different countries. The cosmopolitan character of the assemblage was particularly marked, leading men from every civilized country being present and taking part in the discussion of the subjects in which they were most interested, and concerning which, in most cases, they could speak with authority. Too much credit cannot be given to the Committee of Arrangements for the admirably systematic manner in which they disposed of the vast amount of material placed in their hands. Although there was occasionally some interruption in the exact order of exercises, arising from peculiar exigencies, it is somewhat remarkable that these were not more frequent in occurrence, and, as regards the systematic workings of the sections, more serious in their results. We venture to say that in the history of medicine no approach has been made to the successful accomplishment of so much important scientific work equal to that of the International Medical Congress in London. That great city, one of the medical centres of the world, offered its almost unbounded medical resources to the foreigners, each corporation vieing with the other in the effort to make the visit on the part of the large delegation one of interest and profit.

The address of the President, Sir James Paget, was a model of its kind, and was in every way appropriate to the occasion. This is high praise, it is true, but it is well substantiated by the classic and dignified manner in which he handled his subject, and by the breadth of view which he offered of the field which each and all of his hearers had so variously and yet so successfully cultivated. There was a desire on the part of the orator to deal with the general and fundamental principles that underlie true scientific progress in medicine, rather than discuss abstract questions with which but comparatively few of his auditors could agree; to discuss the purposes and practical aims of a large assemblage of trained minds in contrast with individual effort, however successful; the weighing of facts from the standpoints of different observers, and the interpretation of their true significance by the accumulation of apparently conflicting testimony.

With these ends in view, he truthfully and forcibly maintained that the best work of the Congress should be in the direction of clearing and strengthening our knowledge of facts and our correct appreciation of proved scientific realities; in bringing all its force of numbers and varieties of intellect "to press forward the demonstration and diffusion of truth as nearly to completion as may from year to year be possible."

It is just to say that the work of the last Congress has fairly fulfilled its function as had been prospected by its distinguished President. This result has been, as previously intimated, in no small part due to the practical character of the subjects selected for discussion and to the judicious disposal of the same among the members. The desire was to get at facts rather than theories, and to select the subjects accordingly. In all the sections the discussions were on definite questions of present and practical interest, and the introductories of the presidents of the various sections for the most part gave them in a general mention due importance. With scarcely an exception, the addresses of the chairmen of Sections were well-timed, practical, and interesting. In a few instances these efforts bore evidences of most profound study and more than ordinarily careful preparation, which is saying a great deal, considering the average excellence of the others.

As might have been expected, the address of Prof. Virchow was well appreciated by the Congress. Touching, as it did, upon a subject of vital interest to the progress of scientific research, the sentiments which it contained and the views it advanced very properly received the hearty endorsement of his peers. The distinguished orator very wisely said that if, as scientists, we could not prove our just right before the world for the extension of pathological experiment, and on the strength of that right agree among ourselves, our cause must, from the beginning, be regarded as lost. The value of these methods of investigation were demonstrated with the clearness of one having settled convictions, and with the earnestness of one who had the necessary

data of proof at command. Prof. Virchow, in the preceding Congress, appeared as the able defender of vivisection as an efficient and necessary aid to scientific progress, and his recent effort may be viewed as a fitting continuation of his argument in a more advanced direction as applied to other fields of inquiry. Although on some points his opinion regarding the possibilities of advance may be extreme, the profession, as a whole, will be ready to endorse his present view of the general situation, and will receive his recommendations with becoming respect.

It was eminently fitting, considering the purposes of the Congress, its representative character, and the high scientific standing of its members, that it should be under royal patronage. The formal opening of the Congress by the Prince of Wales was a becoming and respectful recognition on the part of the government of the value of scientific medicine, and was, in such a spirit, appreciated by all present. But the good effects of this patronage by royalty was offset in no small degree by the conditional non-recognition by the Congress of female doctors. It may not be generally known that forty-three properly qualified female physicians were denied admission to the Conference simply because they were women, and because their presence at the Conference would meet with the stern disapproval of the Queen. It will be quite evident, whatever may be the opinion regarding the study of medicine by women, that Queen Victoria, both as a sovereign and woman, committed a grave error, and for which there does not appear to be any reasonable explanation. The right of women to study medicine can never be decided by royal decree, nor by the personal prejudices of even a queen. Much less by such means must their liberties be jeopardized, or their privileges of representation be denied in any scientific body of which they may be qualified members. The British managers of the Congress doubtless gained much by the patronage of their sovereign, but from a scientific standpoint the medical world will not endorse its action, and will justly condemn a course illiberal in spirit, obnoxious in principle, and dangerous in precedent. In the strictly American sense of fair play to women, the Queen should be the last person to oppose any obstacle to their possible advancement. It is perhaps a trifle disrespectful to Her Majesty to say that on a question of principle she exceeded her true prerogative. Not only was she incompetent to decide the question, but she seemed incapable of understanding that the Congress was an international and not a British one, and that the intrusion of her preferences under the conditions named was, to say the least, an act of great discourtesy to the foreign members. But, unfortunately perhaps for herself, the Queen has not yet settled the question of women doctors. On the contrary, she has erected a royal altar for a long-coveted martyrdom of her presumably misguided and presumptuously wilful sisters.

Considering the immensity and variety of the material, it will not be wondered at if some items of the elaborate programme were unavoidably omitted, that many papers were not presented, that the discussions in many instances exceeded the limits of the time allotted, while there was no opportunity for others advertised. But all this must be acknowledged to be inseparable from conditions which could not be anticipated, or circumstances which could not be controlled. The great matter for amazement is that so much work should have been compressed into so few days, and the main objects of the meeting so satisfactorily fulfilled.

In the present issue we publish a full account of such proceedings received from London up to the time of going to press. We have taken great pains and have gone to much expense to secure from correspondents in that city a special report of the proceedings for the MEDICAL RECORD, and it is to be hoped that our efforts will be repaid by entire satisfaction to our readers. Thus far, although from direct and authoritative sources we are enabled to give a good idea of the work done in the general sessions and in the meetings of the sections, we are compelled to defer the publication of the detailed reports until our next issue. On the appearance of these publications we shall take occasion to offer such additional comments as may seem to be necessary. The addresses delivered at the opening session, and the principal ones before the sections, are given in their appropriate places in this issue, and will serve to indicate the plan of work pursued and the value of the material yet to come.

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### THE UTILITY OF THE UNITED STATES MARINE HOSPITAL SERVICE.

WE have received a somewhat curious document, which purports to be a Report of the Committee of the Medical Society of the State of California on the Relations of the Marine Hospital Service of the United States to the Commerce, the Public, and the Medical Profession. This report is signed by three medical gentlemen, the first being an ex-member of the service, who retired somewhat over a year ago.

The contents of the document betray a very strong effort to make out a case against the Marine Hospital Service. It contains assertions and implications which are totally at variance with our knowledge of the workings of this important service. It is charged that the service is a charity, that it is injurious to the sailor morally, is a burden on the Government and on its beneficiaries, with whom it is unpopular, and for whose needs it is inadequate. These are the principal charges which are made. So far as any evidence that we can find goes, all these charges are essentially untrue. As they are only assertions and

are not supported by testimony of any kind, it is hardly necessary to say anything more. We have referred before, at various times, to the work of the Marine Hospital Service, and have thought it but just to call attention to the progress which the conscientious labors of its officers were making in its efficiency. It is virtually a vast provident medical association, which compels to prudence a class of men who incline to it least and need it most. It is also an organization from whose work much that is of value to medical science may be justly expected.

There is no need to go into any special defence of it, however, since it is doing a work whose usefulness cannot be seriously questioned.

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PRESIDENT GARFIELD.

SINCE our last report the President has suffered from a slight febrile movement during each afternoon. The temperature at such times has ranged from 98.6 to 101.5, and the pulse from 100 to 108. The wound has presented a favorable appearance, giving exit to a free discharge of laudable pus, and the healing process appears to have been progressing favorably. The latest report was to the effect that the entire tract of the bullet had nearly healed, and that granulations had approached to within three inches of the mouth of the last incision. The general condition of the patient, as previously mentioned, was maintained until the night of August 14th, when the stomach showed signs of marked irritability, attended with frequent vomiting and consequent prostration. At 8 A.M., August 15th, the pulse was 108; temperature, 100.2° F., and respiration, 20. During the morning a slight amount of nourishment, consisting of milk and meat-extract, was taken and retained. The discharge of pus was free and of good character. At 12.30 P.M., August 15th, the pulse was 118; temperature, 99° F., and respiration, 19. From this time until 6.30 P.M. the patient was tormented with nausea and vomited three times. In the meanwhile the pulse had risen to 130, the respiration to 32, while the temperature remained about the same, 99.6° F.

These symptoms were attended with those of alarming prostration, and the case assumed a very critical aspect. The prostration and nausea continued during the night, and vomiting occurred several times.

August 16th, 8 A.M., the pulse was given as 110; temperature, 98.6°, and respiration, 18. The stomach still being irritable, and the patient continuing in a greatly prostrated condition, nutritious enemata were administered. At noon the pulse was slightly increased in frequency, and had lost somewhat of its force. It was reported at 114, with temperature at 98.3°, and respiration 18. During the afternoon the patient did not show much signs of rallying, although he vomited but once. Pulse, 120; temperature, 98.9°; respiration, 19.

August 17th, 8.30 A.M., it is stated in the official bulletin that the patient passed a tranquil night, without vomiting. The pulse is reported as 110; temperature, 98.3°; and respiration, 18.

At the present writing the gravest anxiety exists regarding the issue. At best, the condition is exceedingly critical, and gives rise to the possibility of a speedily fatal issue unless the patient quickly rallies. The unfavorable turn is, no doubt, due to the long-continued weakness of the patient. This is certainly the worst phase that the case could assume at the present time. In fact, it would be difficult to name a more dangerous complication under the present circumstances, or one capable of bringing about more immediately serious consequences. From all accounts the state of the wound has nothing to do, except in a very indirect way, with the patient's prostrated condition; nor does it appear that there are any symptoms of septicæmia or of pyæmia, save such as have existed in the imaginations of those who have not had an opportunity of seeing the case or of weighing the significance of the symptoms at the bedside. Whatever may be the result of the case, it is due to the gentlemen in charge to say that the treatment has been skilful from the start, and that every means have been used to mitigate the sufferings of the patient, and to ward off every possible danger from all threatened complications.

As might have been expected, the management of the case has been open to much criticism by the secular press. It is to the credit of the profession, and especially of the gentlemen in charge of the case, that so little can be said concerning what might have been done and what was not done. Despite the journalistic prescribers in some of our leading dailies, the people have continued to maintain a confidence in the attending and consulting surgeons which is as gratifying as it is necessary. There seems, very justly, to be but one sentiment entertained both by the profession and the public regarding the judicious manner in which this case has been treated from the beginning.

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HINTS FROM THE HOMŒOPATHIC PHARMACOPŒIA.—Dr. Piffard, in his treatise on "The Materia Medica and Therapeutics of the Skin," gives a number of remedies not confined to the U. S. Pharmacopœia.

Thus, a favorite remedy for early syphilis is the hydrargyrum oxidum nigrum Hahnemanni, in a state of trituration, in doses of $\frac{1}{8}$ to $\frac{1}{16}$ of a grain. The same authority highly recommends the administration of other remedies, such as corrosive sublimate, cyanide of mercury, arsenious acid, etc., in the form of triturations, as being more soluble.

In acute eczema, Dr. Piffard believes that rhus toxicodendron will cut short the attack if taken at the beginning; and he adds that $\frac{1}{100}$ of a drop of a good tincture is not too much to begin with.

# International Medical Congress.

*Held in London, England, August 3 to 9, 1881.*

(Special Report for THE MEDICAL RECORD.)

## GENERAL SESSION.

FIRST DAY—WEDNESDAY, AUGUST 3D.

THE seventh meeting of the International Medical Congress was formally inaugurated Wednesday, August 3d, at 11 A.M., in St. James's Hall, London, by His Royal Highness the Prince of Wales. When the doors of the hall were opened at ten o'clock, an hour before the time announced for proceedings to commence, there was already a large crowd of gentlemen, most of them foreigners, in waiting, and by half an hour later the greater portion of the large hall was filled. Many of the foreign delegates wore their decorations, the glittering array of stars and crosses of which formed a strange contrast to the undecorated coats of our equally distinguished American medical men. Nearly three thousand members of the Congress were present. No female physicians were allowed to attend as delegates.

### DISTINGUISHED MEN ON THE PLATFORM.

The advent upon the platform of some of the most distinguished visitors was the signal for great applause. Professor Virchow, of Berlin, coming in for an ovation at the hands of his many admirers. A similar tribute was also paid to Professor Charcot, of Paris, and many others. Amongst those present at the commencement of the proceedings, were Professor Acland (Oxford), Dr. M. Acosta (Spain), Professor Albernese (Palermo), Dr. C. Allbutt (Leeds), Professor M'Call Anderson (Glasgow), Dr. Fordyce Barker (New York), Dr. Bayer (Brussels), Dr. Lionel S. Beale, Dr. Benedikt (Vienna), Sir J. Risdin Bennett, Dr. Bouchert (Paris), Professor Cowen Bottini (Milan), Dr. Brandis (Auchen), Dr. Braem (Vienna), Dr. Brinelli (Rome), Professor Businelli (Rome), Dr. Byrd (Illinois), Dr. Cheavadia (Naples), Professor Azzio Casselli (Reggio Emilia), Dr. Lucas Championnière (Paris), Dr. Kraus (Vienna), Sir. W. Gull, Cardinal Manning, Sir R. Loyd-Lindsay, V.C., M.P., Dr. Chessnell, Canon Barry, the Bishop of London, Professor Tyndall, Sir Henry Thompson, Surgeon-Major de Chaumont (Netley), Professor Chauveau (Lyons), Mr. Andrew Clark, Dr. Cohen (Hamburg), Sir J. Rose, — Cormack (Paris), Professor Donders (Utrecht), Dr. Matthews Duncan, Professor Esmarch (Kiel), Dr. Austin Flint (New York), Professor Fonssagrives (Montpellier), Dr. Galezowski (Paris), Dr. W. A. Guy, Dr. Hans von Hebra (Vienna), Mr. Prescott Hewitt, Professor Kölliker (Würzburg), Professor Komad (Amsterdam), Dr. C. E. Lyster, Dr. Quain, Professor Pignocco (Palermo), Professor Reverdin (Geneva), Dr. Lydygier (Kulm), Dr. N. Sincinberghi (Rome), Professor Grainger Stewart (Edinburgh), Professor Trelat (Paris), Professor Trendelenburg (Rostock), Professor Erasmus Wilson, Dr. Wunderlich (Stettin), Dr. Wywodzoff (St. Petersburg), Professor Huxley, etc.

### ARRIVAL OF THE PRINCE OF WALES.

The Prince of Wales did not arrive at the hall until twenty-five minutes past eleven. His Royal Highness was received at the doors by Sir William Jenner, Sir William Gull, Sir James Paget, Mr. M'Cormac, the Secretary-General, and other members of the committee, and was conducted by them to the platform.

### ADDRESS OF SIR WILLIAM JENNER.

The chair was taken by Sir W. Jenner, K.C.B., who was *ex officio* Chairman of the General Committee, but who announced that it would be his duty to resign it to the President of the Congress as soon as the latter was elected. In a short but able address he acknowledged the royal support to the Congress, and referred to the beneficent objects it had in view, and was warmly cheered at the several points he made.

### REPORT OF THE SECRETARY-GENERAL.

MR. M'CORMAC, Honorary Secretary-General, then read the report of the executive committee, giving an account of the origin of the Congress, which was decided on at the International Medical Congress held in Amsterdam last year. In drawing attention to the fact that, with the exception of the honorary vice-presidents, all the gentlemen nominated for election as officers of the Congress belonged to England, the committee pointed out that the task of organizing the Congress had been considerable, and that it was desirable that those engaged in the work should be readily and constantly accessible. He then proceeded to present some details of the work that had been done to insure the success of the present Congress. An explanatory letter, giving a short account of the nature of the undertaking, had been sent to every practitioner in the United Kingdom and the colonies; notice of the intention to hold a congress was given to all the universities and schools in North America, and to 3,305 medical men in the various States; and similar circulars, either in French, German, Italian, or Spanish, were forwarded to the universities, medical societies, and a large proportion of the medical men of France, Germany, Austria, Hungary, Italy, Spain, Portugal, Scandinavia, Russia, Turkey, South America, India, China, and Japan. Copies of the programme had been sent to two hundred and eight medical journals, and altogether more than 120,000 circular notices had been sent out. Letters to reigning sovereigns, explaining the objects of the Congress, had been graciously acknowledged.

The report gave the names of the following gentlemen who had been commissioned by their several Governments to attend the Congress and report its proceedings:—For the Argentine Government, Professor William Rawson, of Buenos Ayres; for the Austrian Government, Professor Schnitzler, and for the Minister of Public Instruction, Dr. Hans Ritter von Hebra; for the Hungarian Government, Dr. L. Grosz de Csatar, and for the Minister of Public Instruction, Dr. A. Rozsahegyi; for the Belgian Government, Dr. Warlomont, Dr. Gille, Dr. Spaack, and for the Minister of Public Works, Dr. Libbrécht, of Ghent; for the Brazilian Government, the Baron de Theresopolis; for Egypt, Dr. Osman Bey; for the French Government, Professor Pasteur; for the Minister of War, Professor Gaujot and Dr. Poncet, of Paris, and for the Minister of Public Instruction, Dr. Worms; for Her Imperial Majesty the German Empress, Professor Küster, Berlin; for the Bavarian Government, Professor Ranke and Oberstabsarzt Dr. Port, of Munich; for the Prussian Minister of War, Generalarzt Dr. Coler, of Berlin; for the Saxon War Department, Generalarzt Dr. W. Roth, of Dresden, and Oberstabsarzt Dr. Starke, of Colberg; for the Saxon Minister of Internal Affairs, Geheimrath Dr.

Günther; for Italy, Professor Commendatore Semmola, of Naples, Professor Chevaliere Murri, of Bologna, and Professor Mazzoni; for His Majesty the King of the Netherlands, Professor H. Snellen, of Utrecht, and Dr. Guye, of Amsterdam; for the Grand Duchy of Luxemburg, Dr. Paul Koch; for Roumania, Dr. Marcovitch; for the Russian Ministry of the Imperial Household, Dr. Higginbotham, of St. Petersburg; for the Imperial University of Kazan, Professor Dr. Leon Levschin; for His Majesty the King of Spain, Inspector-General Don Nicasio di Landay Alvares and Inspector-General Dr. Ferradas y Rodriguez; for the Spanish Minister of Marine, Dr. Juan Acosta, Inspector of Medicine in the Navy; for the Swedish Government, Professor Carl J. Rossander, of Stockholm; for the Norwegian Army Medical Department, Dr. Charles Smith, of Bergen, and Dr. L. Dahl; for the Swiss Confederation, Dr. Joel, of Lausanne; for the United States of America, Surgeon J. S. Billings, Washington, D. C., for the War Department, and Surgeon Brown for the Navy Department.

The report further stated that full information on the business of the Congress had been forwarded to all foreign countries, and the result had been the delegation of gentlemen from all the civilized countries of the world to the number of 2,450.

FOREIGN VICE-PRESIDENTS.

Among those who had accepted the invitation to be nominated Foreign Vice-Presidents were: Professor Baccelli, Rome (who was prevented by business of state from attending); Dr. Fordyce Barker, New York; Dr. Billings, Washington; Dr. Bigelow, Boston; Professor Brown-Séquard, Paris; Professor Busch, Bonn; Professor Charcot, Paris; Professor Chauveau, Lyons; Professor Cornil, Paris; Professor Donders, Utrecht; Professor Esmarch, Kiel; Dr. Austin Flint, New York; Professor Foville, Paris; Professor Frerichs, Berlin; Professor Goltz, Strasburg; Professor Gerhardt, Wurzburg; Professor Jules Guérin, Paris; Professor Holmgren, Upsala; Professor Hannover, Copenhagen; Professor His, Leipsic; Professor Hardy, Paris; Professor Horner, Zürich; Professor Kölliker, Wurzburg; Professor Klebs, Prague; Professor von Langenbeck, Berlin; Professor Le Fort, Paris; Professor Loven, Stockholm; Professor Oscar Liebreich, Berlin; Dr. Henri Guéneau de Mussy, Paris; Professor van Overbeek de Meijer, Utrecht; Professor Ollier, Lyons; Professor Panum, Copenhagen; Professor Pasteur, Paris; Professor Pflüger, Bonn; Professor Pantaleoni, Rome; Professor Santesson, Stockholm; Professor von Slawjansky, St. Petersburg; Professor Stokvis, Amsterdam; Professor Tarnier, Paris; Professor Trélat, Paris; Professor Tilanus, Amsterdam; Professor Varentrapp, Frankfort; Professor Verneuil, Paris; Professor Virchow, Berlin; Professor Volkmann, Halle; Professor Warlomont, Brussels; and Professor von Zehender, Rostock. In addition to those legally qualified to practise medicine in their respective countries, a certain number of home and foreign pharmacists of distinction had been invited as extraordinary members, and also some eminent dentists and physiologists who were not medical men. A museum had been formed, and in addition to a collection of objects of great professional interest, there would, in connection with it, be a daily demonstration of patients affected by different forms of disease. In commemoration of this great medical meeting, a medal has been struck. Her Majesty the Queen had expressed her approval of this memorial, to the preparation of which some of our first artists had given their assistance.

OFFICERS ELECT.

Sir J. Risdon Bennett moved a resolution appointing Sir James Paget, President, and Mr. William M'Cormac, General Secretary, and the several gentlemen whose names were mentioned in the report as Vice-Presidents of the Congress and Vice-Presidents of the various sections, and all the other officers. He referred to the very complete literature of the Congress which had been prepared. While he was welcoming, in French, the delegates, the Crown Prince of Prussia arrived and was greeted with great heartiness and cordiality by the immense assembly.

Professor Donders, of Utrecht, who was President of the Congress of 1879, congratulated those who had undertaken the organization of this meeting upon the success which had attended their efforts. He looked for valuable additions to medical science from their deliberations.

The resolution being carried, Sir W. Jenner presented to the Prince of Wales one of the commemorative medals, and Sir James Paget, amid loud cheering, took his seat as President of the Congress.

THE OPENING OF THE CONGRESS BY THE PRINCE OF WALES.

The Prince of Wales, who warmly shook hands with the newly elected President, then rose and said:

Your Imperial Highness and Gentlemen: I gladly complied with the request that I should be patron of the International Medical Congress of 1881, and among many reasons for so doing was my conviction that few things can tend more to the welfare of mankind than that educated men of all nations should from time to time meet together for the promotion of the branches of knowledge to which they devote themselves. The intercourse and the mutual esteem of nations have often been advanced by great international exhibitions, and I look back with pleasure to those with which I have been connected; but when conferences are held among those who in all parts of the world apply themselves to the study of science, even greater international benefits may, I think, be confidently anticipated, more especially in the study of medicine and surgery, for in these the effects of climate and of national habits must give to the practitioners of each nation opportunities, not only of acquiring knowledge, but of imparting knowledge to those of their *confrères* whom they meet in congress. I venture to think, gentlemen, that the Executive Committee have acted wisely in instituting sections for the discussion of a very wide range of subjects, including not only the sciences on which medical knowledge is founded, but many of its most practical applications, and I am very happy to see that so great scope will be granted for the discussion of important questions relating to the public health, to the cure of the sick in hospitals and in the houses of the poor, and to the welfare of the army and navy. The devotion with which many members of the medical profession readily share the dangers of climate and the fatigues and dangers of war, and the many risks which must be encountered in the study of means, not only for the remedy, but for the prevention of disease, deserves the warmest acknowledgment from the public. I have great satisfaction in believing, in seeing this crowded hall, that I may already regard the Congress as successful in having

attracted a number never hitherto equalled of medical men from all parts of this kingdom, as well as from every country in Europe, from the United States, and from other parts of the world. The list of officers of the Congress, including, as it does, the names of those distinguished in every branch of medical science, shows how heartily the proposal to hold the meeting in London has been received. I think it speaks well for the good feeling of the profession that there should have been so warm a response to the invitations. How cordially the proposal has been received may be seen not only in the large number of visitors, but in the fact that they include a large proportion of those who enjoy a high reputation not only in their own countries, but throughout the world. I sincerely congratulate the Reception Committee on this good promise of complete success, and I trust that at the close of the Congress they will feel rewarded for the labor they have bestowed upon it. The report, which the Secretary-General, Mr. M'Cormac, has read, will have explained how great have been his labors. He will hereafter be well repaid, and I am sure Mr. M'Cormac is sensible that he will be recompensed even for his great exertions by the assurance that the progress of the important science of medicine has been materially promoted, for any addition to the knowledge of medicine must always be followed by an increase in the happiness of mankind.

THE OPENING ADDRESS

was then delivered by the President, SIR JAMES PAGET, BART. After referring to the composition of the Congress, the diverse characters of its members, and the various methods of study which had gained eminence for each, he dwelt upon the necessity of utilizing the apparent diversity of thought into a concentrated and harmonious whole. In works done by dissimilar and independent minds, dispersed in different fields of study, or only gathered into self-assorted groups, there was apt to be discord and great waste of power. There was, therefore, need that the workers should from time to time be brought to some consent and unity of purpose; that they should have opportunity for conference and mutual criticism, for mutual help and the tests of free discussion. This it was which, on the largest scale and most effectually, the Congress might achieve; not, indeed, by striving after a useless and happily impossible uniformity of mind or method, but by diminishing the lesser evil of waste and discord which was attached to the far greater good of diversity and independence. Now, as in numbers and variety the Congress might represent the whole multitude of workers everywhere dispersed, so in its gathering and concord it might represent a common consent that, though apart and different, yet the work was and should be essentially one; in all its parts mutually dependent, mutually helpful—in no part complete or self-sufficient. It might seem to be a denial of the declaration of unity that, after this general meeting the Congress should separate into sections more numerous than on any former occasion. He would speak of these sections to defend them; for some had maintained that, in such a division of studies, there was a mischievous dispersion of forces. He observed that the sections which we have instituted are only some of those which are already recognized, in many countries, in separate societies, each of which has its own place and rules of self-government, and its own literature. And the division had taken place naturally, in the course of events which could not be hindered. For the partial separation of medicine, first from the other natural sciences, and now into sections of its own, had been due to the increase of knowledge being far greater than the increase of individual mental power. He did not doubt that the average mental power constantly increased in the successive generations of all well-trained peoples; but it did not increase so fast as knowledge does, and thus, in every science, a small portion of the whole sum of knowledge had become as much as even a large mind can hold and duly cultivate. Many of us might, for practical life, have a fair acquaintance with many parts of our science, but none can hold it all; and for complete knowledge, or for research, or for safely thinking out beyond what was known, no one could hope for success unless by limiting himself within the few divisions of the science for which, by nature or by education, he was best fitted. Thus, the division into sections was only an instance of that division of labor which, in every prosperous nation, we see in every field of active life, and which was always justified by more work better done. Moreover, it could not be said that in any of our sections there was not enough for a full strong mind to do. If any one doubted this, he might try his own strength in the discussions of several of them. In truth, the fault of specialism was not in narrowness, but in the shallowness and the belief in self-sufficiency with which it was apt to be associated. If the field of any specialty in science was narrow, it could be dug deeply. In science, as in mining, a very narrow shaft, if only it be carried deep enough, might reach the richest stores of wealth and find use for all the appliances of scientific art. Not in medicine alone, but in every department of knowledge, some of the grandest results of research and of learning, broad and deep, were to be found in monographs on subjects that, to the common mind, seemed small and trivial.

Study in such a Congress might be a useful remedy for self-sufficiency. Here every group might find a rare occasion, not only for an opportune assertion of the supreme excellence of its own range and mode of study, but for the observation of the work of every other. Each section might show that its own facts must be deemed sure, and that by them every suggestion from without must be tested; but each might learn to doubt every inference of its own which was not consistent with the facts or reasonable beliefs of others; each might observe how much there was in the knowledge of others which should be mingled with its own; and the sum of all might be the wholesome conviction of all, that we cannot justly estimate the value of a doctrine in one part of our science till it has been tried in many or in all. The test of truth in every part should be in the patient and impartial trial of its adjustment with what was true in every other. For every fact in science, wherever gathered, had not only a present value, which we might be able to estimate, but a living and germinal power of which none could guess the issue. It would be difficult to think of anything that seemed less likely to acquire practical utility than those researches of the few naturalists who, from Leeuwenhoeck to Ehrenberg, had studied the most minute of living things, the Vibrionidæ. Men boasting themselves as practical might ask, "What good can can come of it?" Time and scientific industry had answered, "This good: those researches had given a truer form to one of the most important practical doctrines of organic chemistry; they had introduced a great beneficial change in the most practical

part of surgery; they were leading to one as great in the practice of medicine; they concerned the highest interests of agriculture, and their power is not yet exhausted." And as practical men were, in this instance, incompetent judges of the value of scientific facts, so were men of science at fault when they missed the discovery of anæsthetics. Year after year the influences of laughing-gas and of ether were shown: the one fell to the level of the wonders displayed by itinerant lecturers, students made fun with the other; they were the merest practical men, men looking for nothing but what might be straightway useful, who made the great discovery which had borne fruit not only in the mitigation of suffering, but in a wide range of physiological science.

The history of science had many similar facts, and they might teach that any man would be both wise and dutiful if he would patiently and thoughtfully do the best he could in the field of work in which, whether by choice or chance, his lot had been cast.

The best work of the International Congress was in the clearing and strengthening of the knowledge of realities; in bringing, year after year, all its force of numbers and varieties of minds to press forward the demonstration and diffusion of truth as nearly to completion as might from year to year be possible. Thus, chiefly, the Congress might maintain and invigorate the life of our science. And the progress of science must be as that of life. It sounded well to speak of the temple of science and of building and crowning the edifice. But the body of science was not as any dead thing of human work, however beautiful; it was as something living, capable of development and a better growth in every part. For as in all life the attainment of the highest condition was only possible through the timely passing-by of the less good, that it might be replaced by the better, so was it in science. As time passed, that which seemed true and was very good became relatively imperfect truth, and the truth more nearly perfect took its place. In the certainty of this progress, the great question was, What should we contribute to it? It would not be easy to match the recent past. The advance of medical knowledge within one's memory was amazing, whether reckoned in the wonders of the science not yet applied, or in practical results in the general lengthening of life, or, which was still better, in the prevention and decrease of pain and misery, and in the increase of working power. He could not count or recount all that in this time had been done; and he supposed there were very few, if any, who could justly tell whether the progress of medicine had been equal to that of any other great branch of knowledge during the same time. He believed it had been; he knew that the same rate of progress could not be maintained without the constant and wise work of thousands of good intellects; and the mere maintenance of the same rate was not enough, for the rate of the progress of science should constantly increase. That in the last fifty years was at least twice as great as that in the previous fifty. What would it be in the next, or, for a more useful question, What should we contribute to it?

"In the number and intensity of the questions brought before us,'" said he, "we may see something of our responsibility. If we could gather into thought the amounts of misery or happiness, of helplessness or of power for work, which may depend on the answers to all the questions that will come before us, this might be a measure of our responsibility. But we cannot count it; let us imagine it; we cannot even in imagination exaggerate it. Let us bear it always in our mind, and remind ourselves that our responsibility will constantly increase. For, as men become in the best sense better educated, and the influence of scientific knowledge on their moral and social state increases, so, among all sciences there is none of which the influence and, therefore, the responsibility will increase more than ours; because none more intimately concerns man's happiness and working power.

"But, more clearly in the recollection of the Congress, we may be reminded that in our science there may be, or, rather, there really is, a complete community of interest among men of all nations. On all the questions before us we can differ, discuss, dispute, and stand in earnest rivalry; but all consistently with friendship, all with readiness to wait patiently till more knowledge shall decide which is in the right. Let us resolutely hold to this when we are apart: let our internationality be a clear, abiding sentiment, to be, as now, declared and celebrated at appointed times, but never to be forgotten; we may, perhaps, help to gain a new honor for science. if we thus suggest that in many more things, if they were as deeply and dispassionately studied, there might be found the same complete identity of international interests as in ours.

"And then, let us always remind ourselves of the nobility of our calling. I dare to claim for it, that among all the sciences, ours, in the pursuit and use of truth, offers the most complete and constant union of those three qualities which have the greatest charm for pure and active minds—novelty, utility, and charity. These three, which are sometimes in so lamentable disunion, as in the attractions of novelty without either utility or charity, are in our researches so combined that, unless by force or wilful wrong, they can hardly be put asunder. And each of them is admirable in its kind. For in every search for truth we can not only exercise curiosity, and have the delight—the really elemental happiness—of watching the unveiling of a mystery, but, on the way to truth, if we look well round us, we shall see that we are passing among wonders more than the eye or mind can fully apprehend. And as one of the perfections of nature is that, in all her works, wonder is harmonized with utility, so is it with our science. In every truth attained there is utility either at hand or among the certainties of the future. And this utility is not selfish: it is not in any degree correlative with money-making; it may generally be estimated in the welfare of others better than in our own. Some of us may, indeed, make money and grow rich; but many of those that minister even to the follies and vices of mankind can make much more money than we. In all things costly and vainglorious they would far surpass us if we would compete with them. We had better not compete where wealth is the highest evidence of success; we can compete with the world in the nobler ambition of being counted among the learned and the good who strive to make the future better and happier than the past. And to this we shall attain if we will remind ourselves that, as in every pursuit of knowledge there is the charm of novelty, and in every attainment of truth utility, so in every use of it there may be charity. I do not mean only the charity which is in hospitals or in the service of the poor, great as is the privilege of our calling in that we may be its chief ministers; but that wider charity which is practised in a constant sympathy and gentleness, in patience and self-devotion. And it is surely fair to hold that, as in every search for knowl-

edge we may strengthen our intellectual power, so in every practical employment of it we may, if we will, improve our moral nature; we may obey the whole law of Christian love, we may illustrate the highest induction of scientific philanthropy.

"Let us, then, resolve to devote ourselves to the promotion of the whole science, art, and charity of medicine. Let this resolve be to us as a vow of brotherhood; and may God help us in our work."

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### Afternoon Session.

Sir James Paget, President, in the Chair.

#### ADDRESS BY PROFESSOR VIRCHOW: THE VALUE OF EXPERIMENTAL PATHOLOGY.

The Congress was called to order by the President, Sir James Paget.

Professor Virchow, of Berlin, delivered an address, in German, on the value of experimental pathology. He commenced by referring to the great activity of the anti-vivisectionists, and the harm they had done to experimental physiology and pathology. The latter, as well as the former, had its claims for defence from all scientific men. In connection with the general subject, he proceeded to examine the decline of the science of symptoms, and of the falling off of an interest in the study of their relations to pathology. Were symptoms no longer to possess any significance for the medical man? He would say, certainly not. At the same time, for the scientific medical man, symptoms were only the expression of a hidden force; it was his business to follow up this hidden force to its seat in the human system, and there learn its nature and causes. The first question of the pathologist, as of the biologist, was, Where? Consequently, whether they probed the seat of disease with the anatomical knife, or whether they merely confined themselves to observation, the mode of proceeding was essentially anatomical. It was the recognition of this principle which, in a few decades, had changed the whole face of science. Especially was this change observable in the treatment of ophthalmic diseases. Every practitioner now studied the seat of the evil itself, and not merely its symptoms. Even the anti-vivisectionists recognized the value of this method, forgetting, however, that every organ of the body was not so favorably situated for observation as the eye. The principle of modern medicine, in a word, was that of localization. Vivisection dated really from the time of Harvey. Now, Harvey's services the strongest opponents of vivisection themselves recognized; but, said they, since Harvey's time vivisection has revealed nothing important. They were not aware that that very element in the phenomena of Harvey's circulation of the blood, which most affected the vital attributes of the organs of circulation, remained untouched. Whence was derived the activity of the heart? What part in the motion and the distribution of the blood did the organs of the body play? What share devolved upon the arteries, the veins, and the capillary vessels? All those questions were of the highest practical importance, and none of them could be solved otherwise than by experiments upon living animals. Those questions Harvey could not settle, because, in his time, higher anatomy had not been developed. Who then knew anything of the heart or of the nerve? Not till these latter days did men understand the peculiarities of the circulation of the blood. The pulse, that highly-prized object of the old symptomatology, was now intelligible. It was no longer regarded as presenting the symptom of this or that disease, but as the sign of the existence or non-existence of certain principles of activity, of the strength or the weakness, the irritation or the relaxation of certain tissues. The development of physiology and pathology paved the way for the later experimenters, and accounted for the long interval which had elapsed since Harvey's time. Our modern science, indeed, had been but of slow growth, but as it grew, one thing became clearer and clearer—namely, the principle of inherent vitality—the *vita propria* of each section of the body (*das Eigenleben der Theile*). Every step showed more conclusively that the supposed existence of life, as a large and separate entity, was a fiction. Life existed everywhere in the body; and disease and life—or, to speak more properly, diseased and healthy life—existed perfectly well side by side, in the sense that disease indicated so much abstracted from the healthy life. Disease, in fact, was no longer spiritualized: it was a material entity, a real living thing, a cellular change (*die veränderte Zelle*). Had all these discoveries resulted in tangible advantage to us? Was it worth while for such results that so many animals should suffer pain and death? These questions he could confidently answer in the affirmative. How, he asked, could further important results in the science of healing be looked for if experiments with animals were prohibited? How else, for instance, could the operation of chloral have been discovered? It could not seriously be expected that medical men should make their own bodies the subject of experiments with very various and perhaps poisonous substances. They were already more exposed to danger in their contact with disease than any other class of the population. If no suffering whatever was to be inflicted upon animals, our social habits in relation to horses, dogs, etc., would be very much altered. It was absurd to contend, as the vivisectionists did, in effect, that suffering was worse than death. There was no greater hardship involved in putting animals to death, in order to promote the public welfare by means of scientific experiment, than in killing them for food. Abuses, of course, he did not defend, but so long as every person who owned an animal had the right of killing it, necessarily it followed that scientific experiments involving the death of animals were justifiable. And of the necessity of these experiments, and the mode of carrying them out, the investigator alone could be the judge, though, as to the question of time and place, a judicial authority might fairly have something to say.

At the conclusion of his address, which lasted over an hour, and which, marked as it was by many gleams of humor and passages of eloquence, evoked much applause, the learned Professor pleaded that vivisectionists should not be regarded as heartless barbarians, but as men who were working to promote the welfare of humanity. Of science it might be said, as Bacon said of the sun—"Palatia et cloacas ingreditur, neque tamen polluitur."

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After the transaction of business of a miscellaneous character, the Congress adjourned until the regular session of Thursday.

#### SOCIAL ENTERTAINMENTS.

At noon the Prince of Wales honored Sir James Paget with his company to lunch, and a select party was invited to meet His Royal Highness. In the evening

the Prince of Wales, the Crown Prince of Prussia, and Prince Henry of Germany, dined at Willis's Rooms with Sir William Gull and a party of over 100 members of the Congress. In returning thanks for the toast of his own health, the Prince of Wales spoke of the unique character of the present gathering, and expressed his conviction that the Congress could not fail to be of the utmost service to the whole world, and wound up his speech by the words, "*L'union fait la force.*" H.I. and R.H. the Crown Prince of Germany replied to the toast of the distinguished foreign guests. The Prince of Wales, in proposing Sir W. Gull's health, expressed in the warmest terms his personal gratitute for his attention during his long illness; and Sir W. Gull, in reply, disclaimed the sole credit of the attendance on the Prince, and spoke in high terms of the cordial and brotherly assistance he had received from Sir W. Jenner.

The conversazione at South Kensington, given in the evening by the English members to the Congress, was attended by over five thousand persons, but there was abundant accommodation for even this large number in the spacious courts, picture galleries, and garden. The arrangements were excellent. There was no overcrowding, even in the refreshment-rooms, and its perfect success was the result, not of chance, but of skilful arrangements. The Prince of Wales and his illustrious brother-in-law also honored the Congress by attending this soirée and by staying a considerable time. And thus ended a day marked by gatherings unique in character and interest, and it is no exaggeration to say that the most captious critic would fail to detect a single failure of the arrangements at any point.

A considerable number of the Executive Committee were present at the reception on Tuesday afternoon, which was largely attended by visitors to the metropolis. On Tuesday evening, various private entertainments were given, among them being a reception by the Hon. Secretary-General at his private house, which was attended by several hundred members, including some of the most distinguished of the foreigners. Mr. Rogers on the same evening received the members of the Odontological Section and some others at the Marlborough Rooms.

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The various sections met and organized at 3 P.M., when most of the addresses by the respective presidents were delivered, after which the subjects set down for the day were presented. In the section on Anatomy, John Struthers, M.D., of Aberdeen, gave a paper on "The Processus Supracondyloideus Humeri of Man;" while Dr. Facsebeck, of Brunswick, devoted himself to the motor portion of the trigeminus nerve.

In the section on Pathology and Morbid Anatomy, Professor Klebs, of Prague, discussed the relations of minute organisms to certain specific diseases, Dr. H. Vandyke Carter taking up a special branch of the same subject in the aspects of the blood spirillum in relapsing fever.

In the section on Medicine, C. E. Brown-Séquard dealt with localization of diseases in the brain and spinal cord so far as pathognomonic and diagnostic, and Dr. J. Hughlings Jackson, F.R.S., discussed epileptic convulsions from cerebral disease.

In the Surgical Section, a commencement was made by Mr. Spencer Wells, who described recent advances in the surgical treatment of intraperitoneal tumors. Mr. Lawson Tait went into the question of recent advances in abdominal surgery.

## MEETINGS OF THE SECTIONS.

### SECTION ON SURGERY.

FIRST DAY—WEDNESDAY, AUGUST 3D.

JOHN ERIC ERICHSEN, F.R.S., PRESIDENT, IN THE CHAIR.

SUBJECTS FOR DISCUSSION.

After a few preliminary statements, the President of the Section remarked as follows: The executive of this section has proposed eight subjects for the consideration of its members. It is hoped that these will be found to include the more important surgical questions that are at present most prominently before the profession. The short time at our disposal, which will scarcely enable us to do full justice even to these subjects, has prevented the possibility of our bringing forward other and perhaps equally interesting questions; but some of these will be found to have received consideration in the papers which will be read, either *in extenso* or in abstract, as time may allow.

I will now briefly refer to the more important subjects that have been set down for our consideration.

*First.*—In no department of surgery has a more marked or a more brilliant advance been made of late years than in that which concerns the operative treatment of intra-peritoneal tumors.

The establishment of ovariotomy as a recognized surgical operation has now long been matter of history; but the perfection of safety to which it has of late years been carried, by the improvement of its details, has led the way to a vast and rapid extension of operative surgery for the cure or relief of various diseased abdominal organs. The uterus and the spleen, the stomach, the pylorus and the colon, have each and all been subjected to the scalpel of the surgeon, with what success has yet to be determined; and it is for you to decide whether some, at least, of these operations constitute real and solid advances in our art, or whether they are rather to be regarded as bold and skilful experiments on the endurance and reparative power of the human frame—whether in fact they are surgical triumphs or operative audacities. There must, indeed, be a limit to the progress of operative surgery in this direction. Are we at present in a position to define it? There cannot always be new fields for conquest by the knife; there must be portions of the human frame that will ever remain sacred from its intrusion, at least in the hands of the surgeon. May there not be some reason to fear lest the very perfection to which ovariotomy has been carried may lead to an over-sanguine expectation of the value and the safety of the abdominal section and exploration when applied to the diagnosis or cure of diseases of other and very dissimilar organs, in which but little of ultimate advantage, and certainly much of immediate peril, may be expected from operative interference?

*Second.*—In the discussion of the next great question, I would submit that we may, with advantage, direct our attention less to the mere mechanical—the simple operative part of the business—the details of which are now well understood, than to the consideration of those higher questions as to the diagnosis and nature of the various forms of renal disease, in which nephrotomy and nephrectomy may be respectively used, with a reasonable hope of relief or cure. And in considering the prospects afforded by these operations in the improvement of

the health and the mitigation of the sufferings of the patient, it is surely not the least interesting point for us to study the after-physiological effects produced on the system by the extirpation of so important and eliminatory organ as the kidney.

*Third.*—We naturally pass from the consideration of operations on the kidney to that of those which implicate the bladder; and in doing so we have specially to direct our attention to the question as to what advances have of late been made in lithotomy and lithotrity.

In lithotomy we see much of change, possibly something of novelty, but not so certainly anything of real progress. Have we indeed advanced one single step either in the perfection or in the results of that operation since the days of Cheselden, of Martineau, or of Crosse, not to mention the names of more recent, but equally illustrious surgeons and successful operators? The revived median operation, the combination of it with lithotrity, the suprapubic, whether done antiseptically or not, have certainly not been very encouraging in their results, and can scarcely claim to be considered in the light of an advance on the old lateral operation in skilful hands. But yet we must admit that these methods of lithotomy may deserve this consideration—that possibly in some forms of calculus, and in certain conditions of the urinary organs, a wise eclecticism may be exercised in the choice of one or other of them.

In lithotrity, however, it is probable that a great and real advance has been made, and certainly it is undoubted that a complete revolution has been effected by the enterprise and skill of one of our American brethren, for it cannot be questioned that "Bigelow's operation" has completely changed the aspect of lithotrity, and there is every reason to believe that it constitutes one of those real advances in a method which marks an epoch not only in the history of the operation itself, but in the treatment of the disease to which it is applicable.

But here a fertile field opens up for our deliberation. We have to consider not only in what cases, as regards the mere size of calculus, "Bigelow's operation" may safely be used; but also, and far more important than this, the ultimate result both upon the bladder and the kidney of prolonged intravesical instrumentation. The mere question as to the comparative advantages of removal of stone, by one or by several sittings, is dwarfed by the more important one of determining the state of the bladder that results—not perhaps so much as concerns the life as the future comfort of the patient. It is here that information is much needed, and it is here that unfortunately, but for very obvious reasons, the lithotritist himself may in many cases be unable to furnish it.

*Fourth.*—Prehistoric man was doubtless a victim of injury before he became a sufferer from disease, and the treatment of wounds constituted probably the first effort of the healing art. From the earliest dawn of human intelligence the attempt to cure a wound must have suggested itself to man, and yet at the close of the nineteenth century we are still discussing the best methods of doing this, and the causes of their failure. There is still difference of opinion and of practice among surgeons, not only as to the comparative advantages of the "open air" method, and that in which all atmospheric contact is carefully guarded against; of the "dry" and of the "moist" system of dressing; as to whether the "antiseptic method" in a modified form suffices, or whether the more elaborate system of local treatment before, during, and after an operation, which has been devised by the skill and worked out by the unwearied labor of Lister, be essential in all cases of operation wound. Not, of course, for its primary union—for this may be obtained by any and every of the methods mentioned. If it be contended that this system is necessary for the safety of the patient, and the due healing of the wound in some cases, has it been proven to be equally essential in traumatic lesions of all tissues, of all organs, and of all regions? These are questions that may well deserve the consideration of this section. But there are others of a yet wider character that must also engage our attention in any discussion on the best methods of securing primary union in wounds, for it is impossible to fail to recognize in the general constitutional state of the patient a most important factor in this direction; and we should be taking a narrow view of this many-sided question if we did not give due weight to the influence of those hygienic conditions which, if faulty, are inimical or even destructive to the due performance of those actions which are necessary for the maintenance of the organism in a healthy state, and for the proper nutrition and consequent repair of the tissues of the body. Is there no fear that in some of the modern systems of treating wounds we are in danger of expending all our precautions in the prevention of the local, and of ignoring the risk of a constitutional infection?

*Fifth.*—The treatment of aneurism is one of those great questions which from an early period in the history of modern surgery has occupied the attention of practitioners, and has undergone no little fluctuation. A few years ago the battle between the ligature and compression appeared to have been decided in favor of the latter; but the invention of improved ligatures, made of various kinds of animal tissue, and applied with antiseptic precautions, has once more inclined the balance of professional opinion toward the Hunterian operation. But now again the practice of compression has received renewed strength from the employment of Esmarch's elastic bandage in the cure of certain forms of external aneurism, and it is for you to determine in what cases it can be used with advantage, and in what way a cure is effected by its means. For in the treatment of aneurisms, as in that of so many other surgical diseases, the wiser and more scientific course is to follow a judicious system of selection in the method to be employed in each particular case, rather than to subject all to one unbending line of practice.

*Sixth.*—The treatment by resection of some forms of chronic and otherwise incurable joint diseases, has, in certain articulations and at suitable ages, met with universal approbation of surgeons, and the wide extension of the principles of "conservative surgery" is one of the most striking evidences of advance in our art in modern times. Resection has, however, of late years come to be extensively applied to the treatment of cases of articular disease which formerly were subjected to procedures of a less heroic character; and it will be for the members of this section to weigh carefully the wisdom of such a measure, and to contrast its results, both as regards the life of the patient and the after-utility of the limb, with those which may be obtained from the employment of milder means, such as absolute immobility with extension, and possibly, in some cases, simple incision of the articulation.

*Seventh.*—In considering the relations between

adenoma, sarcoma, and carcinoma in the mammary gland of the female, I would venture to submit that this subject has to be discussed here from its clinical rather than from its pathological side. We have here less to do with the ultimate structure of the tumors, with their histological affinities, with the parts that are played by epiblasts and mesoblasts, with what epithelium or connective-tissue cells can or cannot do, than with their clinical history, their differential diagnosis in their earlier stages, the best time for their removal by operation, the liability to recurrence after operation, and the possibility in recurrence of the substitution of one form of disease for another. With these, and such questions as these, we, as clinical surgeons, may advantageously occupy ourselves.

*Eighth.*—The last subject set down for discussion is one that has practical bearings of an importance that cannot be overestimated. There are few questions of the present day of deeper surgical or social interest than the far-reaching, the apparently illimitable and most pernicious extension of a syphilitic contamination of organs and of tissues; of the modifications impressed by it on other diseases that are the local developments of diathesis, whether strumous, tubercular, rheumatic, or gouty. Does the diathesis exercise any influence upon the form assumed by the syphilitic disease, and to what extent does it modify the characters presented by it in its primary and its secondary affections, more especially when the latter manifest themselves upon the skin or in the bones; how far are gummata and caries, psoriasis, and rupia the consequences of a constitutional impress, influencing the direction of the syphilitic poison? To what extent may rickets and gray granulations be the ultimate products of the syphilitic taint? These and various other questions will probably occupy the attention of those who enter on the discussion of this wide-spreading subject.

## SECTION ON ANATOMY.

### First Day—Wednesday, August 3d.

### Prof. W. H. Flower, LL.D., F.R.S., F.R.C.S., President, in the Chair.

**THE MUSEUM OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND,**

was the title of the inaugural address by the President of the Section.

Prof. Flower gave a general outline of the history and contents of the museum which, for eighty years, the College of Surgeons had maintained for the benefit not only of its own members, but for that of the profession at large, and, indeed, of all who take any interest in biological science, whether the young student preparing for his examination, or the advanced worker who had there found materials for many an important contribution by which the boundaries of knowledge have been materially enlarged. To all such it was freely opened, without any fee or charge. Even the written or personal introduction of members, still nominally required, was never asked for on the four open days, from any intelligent or interested visitor; and on the one day of the week in which it was closed for cleaning, facilities are always given to those who are desirous of making special studies, and to the increased number of lady students, whether artistic, scholastic, or medical. Artists continually resort to the Museum to find opportunities for studying the anatomy of man and animals, which no other place in London afforded; and of late years it had been the means of a still wider diffusion of knowledge, by the visits which had been organized on summer Saturday afternoons, by various associations of artisans, to whom a popular demonstration of some part of its contents was usually given on each occasion by the conservator.

If the knowledge of organic nature was of any value to man, as on such knowledge the whole superstructure of their profession is built, there could be no question but that such an institution as he had sketched out must be one of pure and simple benefit. Its maintenance had been a worthy object, upon which the college had spent its care and its money; and whatever might be the changes which impending legislation may effect in the organization of the profession, he hoped that the great work begun by John Hunter, and carried on by those who, under the guidance and support of the Council of the College, had followed him in the care of the collection, might not be impaired or destroyed. Whether the whole of the charges of maintaining such a museum in all its parts on a continually extending scale should be the duty of one institution, like the College of Surgeons, or even of one profession, might be a question for future consideration; but, in the meantime, how easily could its preservation and future extension be rendered entirely independent of all the chances and changes of medical education and legislation, or even of government assistance and interference.

## SECTION ON OBSTETRICS.

### First Day—Wednesday, August 3d.

### Alfred H. McClintock, M.D., LL.D., President, in the Chair.

The President of the Section made the opening address. After an appropriate introduction, he stated that, inasmuch as this was the first occasion of the International Medical Congress meeting in London, it might not be inappropriate if he passed in review some of the more prominent among the many eminent obstetricians who lived and practised in London, and who, by their writings, teaching, and discoveries, had contributed in no small measure to the development of midwifery and gynecology, as well as to the medico-chirurgical fame of London.

In this retrospective glance, he found only one name standing out in the sixteenth century—Thomas Raynald, the translator of Eucarius Rhodion's celebrated treatise, "De partu Hominis." The original English edition, by Raynald, appeared about 1540, and was the first distinct treatise on Midwifery in the English language, and for over one hundred years was the sole guide and text-book of obstetric practitioners, male and female.

In the early part of the seventeenth century, the immortal William Harvey (*tanto nomini nullum par eulogium*) stood forth conspicuous, the splendor of his fame increasing as years roll on. He spent most of his time in London, being physician to the King; and he delivered courses of lectures at the Royal College of Physicians on anatomy and surgery.

Before the publication of his celebrated exercitations on generation, parturition, conception, etc., there were, according to Dr. Aveling, "but three works on midwifery in our language: these were translations from Rhodion, Rueff, and Guillemeau. Harvey's was the first book on midwifery written by an Englishman, printed in our own language, and the influence which it had upon the practice of the time

could with difficulty now be estimated. His claim therefore to eminence in obstetric medicine was beyond question."

Contemporary with Harvey was another remarkable man—Peter Chamberlen, the inventor of the midwifery forceps, indisputably the most valuable instrument of the whole *armamentarium chirurgicum*. Unfortunately for him, however, the brilliancy of his reputation was obscured by the unworthy selfish conduct which caused him to keep the instrument a secret for the aggrandizement of himself and family. He was the father of Dr. Hugh Chamberlen, the translator into English of Mauriceau's works. No less than five generations of the Chamberlen family had been eminent in the medical profession in London, and Dr. Peter, who attained a great age, had been physician to five English sovereigns.

Toward the close of this (seventeenth) century, Richard Wiseman, "Serjeant-Chirurgeon" to Charles I., published his treatise on surgery, in which he gave an excellent description of pelvic abscesses, consequent on parturition. He thus anticipated Puzos' essay on the same disease, and put forward much more rational and correct views as to its pathology.

The eighteenth century was destined to see a marvellous development of midwifery, as well as of many other arts and sciences. As might therefore be expected, London could boast of several eminent obstetricians at this period.

In chronological order, the first to be mentioned was Dr. John Arbuthnot, F.R.S. and F.R.C.P., physician to Queen Anne. Although he had left no enduring evidence of obstetric superiority, yet he was an eminent accoucheur in his day, and reflected infinite credit on his calling by his rare literary talents, his deep scholarship, and his exalted social position. He was skilled in everything that related to science, and held a prominent place among the ablest writers and wits of that augustan age, one of whom (Swift or Pope) alludes in his poetry to

"Arbuthnot's soft obstetric hand."

A man who was considered a friend and an equal by Parnell, Gay, Bolingbroke, Swift, and Pope, could not fail to adorn any pursuit to which he devoted his vast intellectual powers. Speaking of him, Swift said, "He has more wit than we all, and his humanity is equal to his wit."

The next to be mentioned was Dr. John Maubray, not on account of any peculiar merit in either of his works, "The Female Physician," and "Midwifery Brought to Perfection," but because he was reputed to have been the first public teacher of midwifery in Great Britain. He lectured at his house in Bond street so far back as the year 1724. Nearly contemporary with Maubray was Dr. Edmund Chapman. He was the second public teacher of midwifery in this city, and was entitled to our lasting gratitude for having been the first to publish to the world a description of that "noble instrument" (to use his own phrase), the obstetric forceps, the secret of which the Chamberlens kept to themselves for over fifty years. This he did in the "Edinburgh Medical Essays," and subsequently in his treatise "On the Improvement of Midwifery, Chiefly with Regard to the Operation"—the operation meaning the application of the forceps. The first edition of this book came out in 1733. About this same period also lived Sir Richard Manningham, F.R.S., a man of considerable learning, and of great reputation as a successful midwifery practitioner. He was author of some obstetric works of temporary consequence, and his claim to remembrance arose from the circumstance that, in the year 1739, he opened a ward in the Parochial Infirmary of St. James', Westminster, exclusively for the reception of parturient women, which was the first thing of the kind in Great Britain. Shortly afterward the idea was taken up and enlarged upon elsewhere, and the great Lying-in Hospital in Dublin was founded by Dr. Bartholomew Mosse, being the first hospital of the kind in the British Dominions.

The very same year that Sir Richard Manningham opened his obstetric ward in St. James' Infirmary, a surgeon from a small country town in Scotland established himself in London as an accoucheur, who ultimately effected the greatest reformation that had yet taken place in the principles and practice of obstetrics. This man was William Smellie, a name always to be respected wherever midwifery is cultivated as a science. For twenty years Smellie practised and taught here; and published the first volume of his celebrated treatise in 1751, and his splendid anatomical plates in 1754. Amongst his pupils who later on became eminent in the same branch of medicine, were William Hunter, Denman, David McBride (of Dublin), John George Roederer (subsequently Professor of Midwifery at Göttingen), Dr. James Lloyd, of Boston, U. S., and Dr. William Shippen, afterward Professor of Midwifery in the Pennsylvania University; these last being, according to Professor Parvin, "the two first American obstetric practitioners." Smellie possessed a wonderful capacity for work, and a clear judgment; but beyond and above this, he was endowed with a singularly accurate perception of facts, which made him a correct as well as a close observer of nature. Herein laid the secret of his unrivalled success as a reformer and improver of midwifery. He himself felt this to be so, for in reviewing his practice, he says, "I diligently attended to the course and operations of nature which occurred in my practice, regulating and improving myself by that infallible standard." (Case 186: Sydenham Society Edition). Truly he was, in the words of Dr. Hugh Miller, a "noble character and an example of earnest living."

A couple of years after Smellie settled in London, there came to live with him a young man from the Scottish county (Lanarkshire) of which Smellie himself was a native. This young man was no less a person than William Hunter, whose plates and descriptions of the human gravid uterus have gained their author a foremost rank among obstetric writers. By his great reputation as a lecturer and as an anatomist, aided no doubt by his prepossessing appearance, polished manners, and cultivated mind, Hunter proved a successful competitor of Smellie's in practice. Like him, he also gave special courses of lectures on midwifery, MS. notes of which are to be found in many libraries. In 1748, Hunter was appointed surgeon and man-midwife to Middlesex Hospital, and soon afterward to the British Lying-in Hospital; for though the physicians claim him as belonging to themselves, yet it cannot be disputed that Hunter was a surgeon and a member of the Corporation of Surgeons of this city. Besides being a rival, he was in some respects a contrast to Smellie. The school of obstetrics founded by the latter was not inaptly described by the late Tyler Smith as the mechanical school, from the importance it attached to the resources of art in aiding parturition. Hunter, on the other hand, placed extraordinary reliance on the powers of nature, and

trusted too much to tincture of time. Hence, his followers have been designated the physiological school; and, through the influence of his commanding authority, they formed a large section of the profession, and could boast some great names.

Although we may regard Hunter as one of ourselves, and appropriate much of the glory with which his name was invested, "yet it is necessary (as Dr. Duncan observes), with a view to justice, to point out that his obstetrical fame is chiefly anatomical, and that his greatest claim on our admiration and gratitude arises from his anatomical work and influence." (Harveian address, 1876.)

One of the greatest ornaments of that physiological school of accoucheurs founded by William Hunter was Thomas Denman, a man of remarkably sound judgment, great prudence, and of the highest moral integrity. Throughout half a century he lectured and practised in London. His work, entitled "An Introduction to the Practice of Midwifery," is well known. It had many peculiar excellences: the chief was his classification of labor, which was at once comprehensive, pathological, and practical, and thereby serves the highest purposes of any system of classification.

Did time permit, he could multiply these brief sketches so as as to include many other London obstetricians who lived since the commencement of the present century, but he contented himself, however, with a mere recital of their honored names, viz.: John Clarke, Osborne, Leake, Bland, Merriman, Charles Clarke, Gooch, David Davis, Blundel, John Ramsbotham, Marshall Hall, Robert Lee, Robert Ferguson, Rigby, Jun., Francis Ramsbotham, Granville, Ashwell, Lever, Locock, Waller, Murphy, Tyler Smith, Oldham.

## SECTION ON MEDICINE.

First Day—Wednesday, August 3d.

Sir William Gull, M.D., D.C.L., LL.D., F.R.S., President, in the Chair.

### THE ADDRESS OF THE PRESIDENT.

The President called the section to order, and then proceeded to deliver his opening address. In his introductory remarks he took occasion to refer to the great strides that had been taken within the past few years in the rational study of medicine, in that method which tended so directly toward the accumulation of facts rather than the promulgation of theory. Hence it was that in contradistinction with the old-fashioned doctrine of fluids, that of solidism, properly so-called, is widely reasserting itself in the science of living things; not as an *à priori* system, but through the progress of knowledge. The proximate conditions of pyrexia were no longer vaguely referred to nerve, but to definite nerve-centres; hyperæmia and inflammatory changes to sympathetic lesions; abnormal chemistry to the great respiratory centres; the strange conditions of Addison's disease, with its characteristic pigment, to the suprarenal bodies, themselves probably but nerve-centres, and related, at least by structure, to the system of the pituitary gland; epilepsy, supposed in Hippocratic times to be due to extraneous maleficent spiritual influences, was traceable to apparently trifling changes in a few gray nerve-cells. The specific fever-processes notoriously owe much of their character and intensity to the nervous system. Their relation to time, their occurrence only in warm-blooded animals, the great mortality they cause through nerve-exhaustion, and the immunity they left behind them, indicated that, whatever might be the nature or mode of operation of their several poisons, it was by implication of nerve-elements that fever obtained its chief clinical characteristics. Further, in the advance of "solidism," what could interest us more than the recent investigations on contagia? Perhaps no more important step had been made in practical pathology than the proof that some at least of these contagia were organized solids. This discovery, which had tried the patience, experimental skill, and scientific criticism of the best observers to establish, had brought us at length within view of that which had hitherto been so mysterious. To have been able to separate, though imperfectly, the contagious particles; to have come to the conclusion that no fever-poisons were soluble, was a hopeful preliminary toward forcing them to yield up the secret of their nature. If "solidism," as a theory of organic processes, wanted confirmation, we could point to nothing more striking than the present established views on putrefactive changes; and to the amazing fact, that the normal textures and fluids of the body resisted decomposition, unless invaded by microscopic organisms. He believed that hereafter all organic chemistry would be found to be simply the resultant of mechanical changes in organic solids?

## SECTION ON PATHOLOGY.

First Day—Wednesday, August 3d.

Samuel Wilks, M.D., F.R.S., President, in the Chair.

### PRESIDENT'S ADDRESS.

The President of the Section extended to the members present a few appropriate words of welcome, and then proceeded, without further introduction, to take a somewhat practical view of the general subject of pathology by considering it in its more direct relations with disease, decay, and death. Gradual and progressive decay was natural in every organic structure, as was also the process of repair. These processes were not, however pathological, and were not of themselves indicative of a diseased condition.

If, however, these occurred prematurely, they became abnormal, and might be strictly regarded as morbid. Therein there was one form of a pathological condition—a premature decay arising from the various causes which brought the organism to an end, either from their operating with unusual force, or from some inherent weakness in the body, which was unable to moderate their action. If all such potent influences, instead of driving the mechanism too quickly, and so bring it prematurely to an end, concentrated their forces upon one organ only, that organ would become, in ordinary parlance, diseased; but the process there set up might be of exactly the same nature as time would otherwise have produced. In comparatively young persons, for instance, we meet with fibroid and fatty changes in the heart and vessels, distention of the air-cells, alterations in the structure of bones and joints, which resembled in every respect those which age would have ordinarily induced. Therefore, many of the conditions which were called disease seemed nothing more than the result of the concentration on a particular organ of all such agencies as, under ordinary circumstances, brought about senile changes.

The pathologist, therefore, could not but regard the body, in the first place, in its physiological relations with its surroundings, and mark the alterations

which time produced. The physiologist was aware that the production of force must be accompanied by loss elsewhere, seeing that gain and loss were equal; and therefore, in observing organic life, he should regard the destructive processes as well as the formative. Life seemed to depend upon changes continually going on in relation with the atmosphere in which all living bodies were steeped. The burning of the fuel in oxygen supplied the forces necessary for living processes; we, therefore, although alive, were constantly being consumed. During so many years the body was undergoing slow destruction, and this process occurred much more rapidly in some persons and in some animals than in others. Why one creature should live longer or burn out sooner than another was not clear: why, for example, should a dog be worn out in ten or twelve years, its limbs be stiff, its sight and hearing impaired, its intellect obtuse, and senile changes be discoverable in its brain and elsewhere, when a parrot might take a century for the production of the same destructive changes? Why tissues of the same composition should wear out in one animal after ten revolutions of the earth when it took a hundred revolutions to destroy similar ones in another, was by no means apparent. In man, if the destructive and reproductive changes were normally counterbalanced, the ordinary duration of life is reached. If the balance were not kept, the destructive agencies might be in the ascendancy, and life be shortened. If any of the ordinary surroundings which are always exerting their influences upon us, as various kinds of air, food, moral and mental moods, were in any way noxious, they might in time tend to premature death; and if they should act in such a manner as to cause localized organic changes, we should style these changes disease. There could be little doubt that a large number of maladies in England, as gout, Bright's disease, etc., were induced by mere excesses or inequalities in a mode of life which was considered ordinarily correct. It should be one of our studies to consider the relations of the human race to the soil, and observe all the circumstances which centuries had induced to bring about this normal or healthy relation between them. We might then observe the effects of the concentration of some of the more untoward of the influences which ordinarily environ it, as well as inquire into the effects of transplantation into another country. It seemed that all the usual surroundings of life in civilized society, acting in undue proportion or in a more determined manner, induced a very large number of the diseases which we were called upon to treat.

In considering all these agencies, working for what we call evil and leading to destruction, we should not overlook an opposing law—that of reparation. Not only did we observe a production of living force in necessary association with a dissolution of material, but an ever-existing tendency toward the remaking of the injured tissues. We could scarcely think of a morbid change in the body which was not attended by another which has an opposite tendency. Every phthisical lung showing destruction of the tissue exhibited at the same time the attempt to limit the process and to save life by shutting off the escape of air from the lung or sealing the ulcerated blood-vessels.

Then, again, in considering the definition of disease, after having observed how large a number of maladies were produced by the influences of all our ordinary surroundings, we had to recognize those external causes of an extraordinary or specific character which prey upon the human frame, and often brought its machinery to an end. Now, if these causes were obviously parasitic, we were not witnessing so much the case of disease as the spectacle of one animal preying upon another. As regarded the parasite, it was pursuing its normal life-history, and as regards the patient or the host, he was simply being destroyed; the difference in his mode of death from that which would result from the onslaught of a wild animal, would consist merely in time. If a man fall a victim to the bite of a cobra, he was not said to die of disease; but the term was applicable if he died of glanders. There was this difference, however, in the latter case: the poison was not a natural one, even in the infecting animal. If, however, in these infectious diseases the morbific cause was an animal or vegetable organism, although microscopic, then we really had to deal with the operation of one living being acting upon another, and the so-called specific malady exhibited nothing more than the natural course of life of certain specific organisms. The term disease, according to the definition, was here again scarcely applicable.

All these abnormalities of the human organism, under whatever conditions they might arise, suggested that, as every branch of biological science was being studied in relation to the lower organizations and according to the law of evolution, so must pathology become the subject of a large field of inquiry, and be made to embrace the diseases of all animal and vegetable life. The comparison of disease in man and animals might throw much light upon its nature, and it was remarkable that so few persons had been stimulated to the work, by considering the long controversy which had taken place as to the relation between vaccinia and variola, or hydrophobia and rabies. A true human pathology should have its basis in comparative pathology. Here lay a mine of wealth but little worked. As at the present time every structure and function of the human body was being studied in reference to its antecedents in the lower animals, so there could be no doubt that the various morbid changes to which it was liable might be also profitably discussed in reference to similar actions in more simple forms of life. The truth of this had been clearly seen by philosophers who had no special acquaintance with our department of science. Thus, Buckle, in his "History of Civilization in England," said: "The best physiologists distinctly recognize that the basis of their science must include not only the animals below man, but also the entire vegetable kingdom, and that without this commanding survey of the whole realm of organic nature we cannot possibly understand even human physiology, still less general physiology. The pathologists, on the other hand, are so much in arrear, that the diseases of the lower animals rarely form parts of their plan, while the diseases of plants are almost entirely neglected, although it is certain that, until all these have been studied and some steps taken to generalize them, every pathological condition will be eminently empirical on account of the narrowness of the field from which it is collected." This was almost as true now as when written several years ago; but the speaker was pleased to think that his countryman, Sir James Paget, had already removed the slur upon our scientific procedure by his lecture on "Elemental Pathology," in which he showed the importance of observing the resemblances between the changes in the various tissues of man and the vegetable world, and also the deductions to be drawn therefrom.

Again, if the specific diseases were due to organisms, and the hypothetical *contagium vivum* was a reality, it must be subject to the same laws as other organic matter; and if the doctrine of evolution were true, it must have numerous relations with families of its own kind, and perhaps with others which were now obsolete. This idea had occurred to the minds of Airy, Thorne, and several medical men in Great Britain, and it would no doubt further fructify in their hands.

A highly contagious disease prevailing in a particular locality might be exhibiting the differentiation of some more simple, less virulent, and widely spread disorder. For example, a slightly contagious epidemic sore throat might, in course of time, develop into a more virulent one until it culminated in diphtheria; and if this disease were due to an organism, the latter might have found a more genial soil for its development, or be altered by propagation and time, so that new properties might at last be added to it. There might be a progressive development of infectiveness. Then, again, the doctrine of natural selection might obtain in the fact of some specific diseases remaining among us, while others had become obsolete. The same law, too, if allowed its full operation, might tend still more than it does to the subjugation of many hereditary diseases; for as these appear in youth, and often cause death, they would fade away by a process of self-destruction. As regarded the specific diseases, it was evident that the most susceptible persons would be struck out by the poison, and the least susceptible remain, so that the poison would be modified in its virulence. We witnessed this fact in the more moderate characters of the exanthemata in all civilized nations, in comparison with the more profound effects produced by them in nations where the diseases had been hitherto unknown, as, for example, the fatality in the Pacific islands of our comparatively mild British measles.

Besides the maladies which were induced by the evil influences of our ordinary surroundings, and those due to specific causes just named, there was a class of diseases styled new-growths, which took a very large share in adding to man's mortality. The advance made in our knowledge of these structures was very considerable, and was still rapidly progressing toward a determination of their origin and the discovery of their relation to the normal tissues. These investigations were assisting us in discarding some of the older notions regarding their constitutional and malignant nature, and proving that many were accidental in their origin, and therefore might possibly be averted.

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## SECTION ON MENTAL DISEASES.

### First Day—Wednesday, August 3d.

### C. Lockhart Robertson, M.D., Cantab, F.R.C.P., President, in the Chair.

### THE CURE AND TREATMENT OF THE INSANE IN ENGLAND.

After an appropriate welcome to the members, the President stated, by virtue of his official position as senior physician to the Lord Chancellor, the guardian of lunatics, that he occupied the presidential chair of the section. He offered no excuse for the choice of his subject, inasmuch as it was one which, from a political point of view, interested every alienist.

The number of the insane in England of whom there was official cognizance was about 71,000, being in the ratio of 27.9 per 10,000, or 1 in 350 of the population. Of these, no less than 63,500 were paupers chargeable to the rates and maintained at the cost of the community. The remaining 7,600 are private patients, whose means vary from £50 to £50,000 a year, much the larger number being nearer £50—for insanity necessarily tends, by arresting the power of production, to the impoverishment of its subjects. Thus, of the total of the insane in England, 90 per cent. were paupers maintained at the public cost, and 10 per cent. only were kept by their own resources.

In England 61.5 per cent. of the lunacy of the country was maintained in the public asylums. In Scotland it reached 75.6 per cent., while on the other hand the proportion of patients in private asylums is 6.5 per cent. in England as against 1.6 in Scotland. In England 9 per cent. only of all lunatics were placed for care in private dwellings; in Scotland the proportion rises to 15.8. In England there were 23 per cent. in workhouses; in Scotland there were only 7 per cent. In England 43 per cent. of the private patients were in private asylums, while in Scotland the proportion was 9.5 only. The public asylums, on the other hand, had 84 of the Scotch private patients under treatment as against 49 in England. In England, owing to the traditional preference of the Court of Chancery for private dwellings for the care of its wards, the proportion of patients so placed stood as 8 to 6.5 in Scotland, while with pauper lunatics these figures were reversed, the proportion in England being 9.4 as contrasted with 17.8 in Scotland. There were 43,700 patients in the public asylums of England, or 60.5 per cent. of the whole lunacy of the country. Of these, 40,000 were pauper lunatics, and 3,700 were private patients. The former were maintained in the county and borough asylums, the latter were divided between these and the registered lunatic hospitals.

The county and borough asylums of England, sixty in number, contained forty thousand beds, varying from two thousand to two hundred and fifty. They had been built and were administered under the provisions of the Lunacy Act of 1845. The average cost per bed had been under £200; the weekly maintenance of each patient was 10*s.*, to which should be added the interest on the cost of construction and the yearly repairs of the asylum, which were borne by the county rate, bringing the yearly cost for each pauper lunatic maintained in the county asylums to nearly £40.

The government of the English county asylums was entrusted by the Lunacy Act, 1845, to a committee of the justices of the peace, under the control of the Secretary of State for the Home Department. The administration was in the hands of the resident medical superintendent. A yearly inspection of the asylum was made by the Commissioners in Lunacy, and a yearly medical and financial report is presented by the committee and medical superintendent to the quarter sessions, and published.

The proportion of cures (discharged recovered) in the county and borough asylums in the last decennium, 1870–80, was 40.28 per cent. on the admissions, and the mortality 10.59 on the mean population. In Scotland, during the same period, the recoveries were 41.6, and the deaths 8. The only private patients admissible under the statute were those bordering on pauperism, and whom the law required as to classification and diet, clothing, etc., to be treated as the paupers. Herein the English

county asylums differed from those on the continent of Europe and in America, where alike, and he thought most wisely, special and often excellent provision existed for the care and treatment of private patients. At the public asylums near Rouen, at Rome, at Munich, and at Utica, in the United States, he had seen extremely good accommodation provided for private patients.

Besides the county asylums for the insane poor, there were in England fifteen lunatic hospitals, including the idiot asylums at Earlswood and Lancaster, where the principle of hospital treatment followed in the county asylums was applied to the insane of the upper and middle class with the most satisfactory results. These asylums had nearly 3,000 beds, and the average weekly cost of maintenance was £1 10*s.*, or, including the fabric account, £1 15*s.*

There were 3,400, or 43 per cent., of the private patients in England confined in private asylums, of whom 1,850, or 54 per cent., are in the thirty-five metropolitan licensed houses which are under the sole control and direction of the Commissioners in Lunacy, who diligently visit them six times a year. The remaining 1,550, or 4.6 per cent., are in the sixty-one provincial licensed houses which are under the jurisdiction of the justices in quarter sessions, but are inspected twice a year by the Lunacy Commissioners. The distinguished speaker concluded by an analysis of the requirements of the English lunacy law.

## SECTION ON DISEASES OF THE EAR.

W. B. Dalby, M.D., F.R.C.S., President, in the Chair.

Dr. Dalby, after expressing his gratification in meeting so many distinguished otologists, remarked:

In comparison with some other sections, the subjects selected for discussion, at first sight perhaps appear to be very few, but this arrangement has not been decided upon without due consideration and with a very distinct purpose.

The pathology of certain diseases of the ear may be said to be established, and their successful treatment is, without doubt, conducted by all of us upon very much the same routine.

There are others upon the pathology of which very different views are held, and in regard to whose treatment the most varied methods are now advocated and practised. When I say that amongst the latter class especial prominence should be given to the so-termed proliferous catarrh of the tympanum, its treatment generally, and the several operations which have been devised and practised for its relief, I feel sure that this statement will receive general assent.

I regard, therefore, the present occasion as affording a most unusually favorable opportunity for a thorough discussion upon all points connected with this matter, and the first subject upon the programme, viz., "The Value of Operations in which the Tympanic Membrane is Incised," includes all the debatable ground in connection with it.

Patients with this affection (certainly one of the most common diseases of the ear) are every day coming under the observation of aural surgeons, and it must be acknowledged that from the capitals of Europe and from the United States the views and practice of most eminent authorities, whether as regards general treatment or operative proceedings, are of the most different character, and often opposed to one another even in principle. This extreme divergence of opinion is of itself enough to indicate the difficulties which surround the subject.

I may perhaps be allowed to say that the position which operations upon the tympanic membrane occupies in surgery at the present time is of a somewhat uncertain and indefinite nature.

It is well known that many surgeons never make an incision into the membrane; that others, in their practice, strictly limit this procedure to those cases of acute inflammation of the tympanum in which there is tolerably conclusive evidence of the existence of pus. A third division, and this includes a very large proportion of those who attend to ear affections, make use of an incision, not only for the evacuation of pus, but also of mucus in a more or less fluid state from the tympanic cavity. In the fourth division must be placed those who, to the indications already named, add, as requiring one of the several forms of operation on the membrane, cases in which the tympanum has been the seat either of proliferous catarrh or of inflammation which has left the membrane connected to the ossicles, or the wall of the tympanum by adhesions. Lastly, we come to the division of the tensor tympani muscle. Without expressing any opinion on this subject, it may be said that, for whatever class of cases it may be practised, it can hardly be declared to take rank amongst those operations in surgery as one which, in consequence of its results, has received the recognition that is (and must be) accorded to every surgical proceeding worthy of universal adoption. It cannot, for example, in the present state of its history, bear comparison with a somewhat analogous operation in the department of ophthalmology —viz., iridectomy; and whatever position it may eventually occupy, it would be hardly too venturesome to predict for it a similarly brilliant future, if the anticipations which were formed by those who introduced and practised it had been even in a measure realized. What is the precise place which it holds at present, in the opinion of those well qualified to judge of its merits, we shall hope to hear before this session has concluded its discussions. We may, I think, fairly presume that the object which is sought to be attained from all operations which include incision of the membrane is of a twofold character, viz., the evacuation of the products of inflammation, or the relief of tension, and there are probably no surgeons of experience amongst us who have not some time during their career performed various operations with these principles in view. If a general expression of opinion on the respective merits and demerits of each and every operation on the membrane is extracted at this meeting, such as may serve as a guide to those members of our profession who are devoting their energies to the study of diseases of the ear, the interests of surgery will have been well served, and I sincerely trust that this may be the result of our deliberations.

The next subject for discussion, "Morbid Growths within the Ear," not only includes the origin, nature, and treatment of bony enlargements and exostoses in the external meatus, of polypus from whatever part arising, of myxoma, sarcoma, and cancer, but also the treatment of perforations of the membrane, inasmuch as this is a very constant accompaniment and exciting cause of these growths.

Probably no portion of the body so well as the ear could be selected to illustrate the doctrine in pathology which teaches us that a local irritation must precede a heterologous or homologous formation. To take the last-named examples of myxomatous,

sarcomatous, and cancerous growths. Certainly in none of the cases which I have myself seen, altogether three in number, or which within my knowledge have been recorded by other observers, has malignant growth affected the ear, unless it has been preceded for a considerable period by a purulent discharge secreted from the lining membrane of the tympanic cavity. The same rule held good in the only case in which I met with a round-celled sarcoma in the ear. A similar law will, I think, be always found to obtain when myxomatous tumors are found in this position. We all know how very generally every form of polypus is but the sequence of a perforation; and even when a polypus takes its origin from the external canal, a local irritation represented by a circumscribed inflammation, which involves the periosteum of the canal, has existed previously. In the case, too, of multiple bony enlargements of the canal, although very often it is not easy to point to a local irritation, the history of a perforation of many years' standing may not unfrequently be extracted from the patient, so that it is fair to infer that the passage of a purulent discharge over the surface of the canal has been the direct cause of the so-called exostosis. In order to show the extreme probability of the truth of this explanation, we must fall back upon our personal experiences of cases. On five occasions I have attended patients with perforation of the membrane, who have been dismissed, and have presented themselves between two and three years later with multiple enlargements of bone almost completely blocking up the canal. Another point, which also bears out the theory of a local cause to these growths, is one which I have constantly observed (and it has been recorded by others). It is that when the enlargements are found in both canals, the patients have been much addicted to sea-bathing.

The third subject on the list, "The Loss of Hearing where the External and Middle Ears are Healthy," embraces a very large proportion of the conditions under which the hearing is defective, whilst it is at the same time associated with subjective nervous symptoms. In this category will come syphilitic disease (inherited and constitutional) of the nervous structures, that very large class of cases to which, for want of a better name, and apparently for no other reason, the term Ménière's disease has been applied; a subdivision of this class, in the contemplation of which no one who has had a large experience of ear diseases can fail to be struck with the intimate relation which exists between the auditory and pneumogastric nerves. Cases of extreme deafness and perfect hearing alternating, without any explainable reason so far as an examination can detect. Those instances in which a permanent or temporary loss of hearing is without doubt primarily due to emotional influences form a most interesting and distinct group in themselves. This is not an occasion on which I would venture to occupy your time by the relation of cases, but I may be allowed to mention by way of illustration that I have known the hearing in apparently healthy subjects to be almost completely lost on the witnessing a sudden death of a near relative; on several occasions immediately upon the receipt of news of a painful nature; in the case of women, upon the fright produced by a cry of fire, or an alarm of burglars in the house; at the witnessing of the terrible sight of a man cutting his throat; once on the receipt of great good fortune which had not been anticipated. On each of these occasions the hearing power of the patient was always perfectly good up to the time of the catastrophe, and immediately afterward the deafness was intense, so that the change in all probability was almost instantaneous. In passing, I suggested as a possible, though imperfect and incomplete explanation, that in the cases referred to a sudden hyperæmia in some portion of the brain, or perhaps in the medulla at the origin of the auditory nerve, may account for a phenomenon which we are not at present in a position to explain. In truth, because we cannot actually define the lesion, or even its position, it is none the less certain that a local origin must exist. We have also to consider the unmanageable subject and too often unmanageable symptom of tinnitus; the sudden and total loss of hearing consequent upon mumps, diphtheria, and some other acute diseases; the loss of certain ranges of notes, whilst other sounds are normally heard. The list might be readily extended, but it is only necessary to mention what I have done to show that there is no dearth of material for our deliberations.

In many nervous diseases which come under the observation of physicians, a certain train of symptoms is met with; at the same time the actual lesion, or sometimes even the position of the lesion, is uncertain. The diseases are, however, quite familiar to us all, and we apply the same name to them. Amongst aural surgeons I am sure that mental notes are often taken, by the help of which, if they received expression, the nervous diseases of the auditory apparatus would be sorted into groups—nameless, perhaps, but none the less suggestive of the probable termination of the cases, and rich in facts that might serve as a guide to future observers. That such notes, derived from the experience of years, may be laid before us when the third selected subject is under discussion, I have great hopes. I purposely forbear to refer to any of the eminent men whose names are connected with the various diseases I have mentioned by suggested treatment, by the operations which they have introduced, by their valuable investigations and observations. They are perfectly familiar to all the members of this section, and it would be difficult as well as invidious to allude to any without mentioning the names of many of the distinguished visitors whom we have the good fortune to meet to-day.

## SECTION ON DISEASES OF CHILDREN.

### First Day—Wednesday, August 3d.

### Charles West, M.D., President, in the Chair.

#### PROGRESS IN THE STUDY OF INFANTILE DISEASES.

The President, after expressing his deep sense of the honor conferred upon him, proceeded to give a cursory sketch of the progress of the study of infantile diseases during the past thirty years. He said:

Thirty years ago, throughout the whole of England and America, there was not a single hospital set apart for children. It was but rarely that one saw these little waifs and strays, in the wards of our general hospitals, for the maxim, "De minimis non curat lex," held good in medicine as in law. Germany, too, was in but little better case, and one was forced to go to Paris to study on a large scale those diseases which men like Guersant, and Blache, and Baron, and Trousseau, and Rogers investigated with untiring zeal, and, in spite of hospital arrangements most painfully defective, strove to cure. We all know how this is altered now. In London there are

six separate children's hospitals, each, I believe, with its convalescent branch; and children's wards are to be found in every one of the large London hospitals. There are special children's hospitals in every large town in England. America and Germany have followed this example, and almost everywhere throughout Europe the opportunities for the study of the diseases of children are almost as numerous as for the diseases of adults.

Nor has this wide field been without abundant husbandmen to till it, and we may count with satisfaction the fruits of their labors.

The vague phraseology which served for years to conceal our ignorance even from ourselves, has been to a great degree done away with. We talk no longer of worm fever, remittent fever, gastric fever, and so on; for under these various names we recognize the one disease, typhoid fever, varying in severity, but marked always by its own characteristic symptoms. Half a page in a hand-book was all that was to be found, thirty years ago, concerning heart-disease in childhood; while at the present day the frequency of heart-disease has been fully recognized, and it has been studied with as minute a care in the child as in the adult. The various inflammations of the respiratory organs are no longer looked on as a whole, but each is referred to its proper class, and we distinguish lobar and lobular pneumonia, bronchitis and capillary bronchitis, and assign to each its proper place and its characteristic symptoms. Nor have our therapeutics lagged behind. I remember the hesitation with which, some years ago, my dear friend and master, the late Dr. Latham, decided on tapping the chest of a boy eight years of age, who was received into St. Bartholomew's Hospital on account of a pleurisy which had terminated in empyema; and the delight, the wonderment almost, with which we regarded the successful issue of the operation in a child so young. A few months ago, I communicated to the Medical Society of Nice the particulars of fifty cases in my own practice where paracentesis of the chest had been performed at my desire, and several of you, gentlemen, could relate as many cases as mine. That once almost unrecognized disease, diphtheria, has been studied with the greatest care, its relation to membranous croup has been investigated, the close connection of the two has been demonstrated. I, for my part, would not hesitate to say their absolute identity has been established. Much light has been thrown on the various diseases of the nervous system. That once enigmatical affection, the so-called essential paralysis of infancy and childhood, has been shown (in the first instance by the researches of my friend, M. Roget, and his able coadjutor, M. Damaschino) to be due to an acute inflammatory softening of the gray matter of the anterior columns of the spinal cord; and twenty-five recorded observations since that time attest the truth of their discovery. Though strictly speaking, perhaps, not a disease of the nervous system, the pseudo-hypertrophic muscular paralysis of Duchenne claims mention here as a new and important addition to our knowledge of the pathology of early life.

I fear to weary you by further enumeration, else it would not be difficult to increase largely the instances of new and most important knowledge added to our stores since my student days. In estimating the value of their gains, too, it must not be forgotten that each truth established means an error exploded; so much base metal, so much counterfeit coin withdrawn from circulation, or, to put it differently, so much sterling gold substituted for inconvertible paper money. In this progress surgery has everywhere borne a large part. The treatment of hip-disease, the excision of scrofulous joints, the new modes of treatment of spinal curvature—some, indeed, still on their trial—the operation for the cure of genu valgum, which one cannot mention without a fresh tribute of thanks to Joseph Lister, who in this instance has rendered a proceeding safe and salutary from which but a few years since the common sense of the surgeon would have recoiled—are so many fresh instances of progress made during a period of little more than the half of my professional life. I take it, however, that the great use of meetings such as the present is to take stock far less of what we know than of what we do not know, or know at best but imperfectly. A few of these problems have been submitted to you in the list of subjects for discussion. To some it is probable that the combined experience of so many and such distinguished men as are here present may furnish definite and conclusive answers. Other questions are introduced in the hope of gaining fresh information on points concerning which our knowledge is fragmentary; while there are many other problems still unsolved, on which it is hoped that fresh light will be thrown during the time of our meeting here.

And now, with your permission, I will conclude with an old apologue, which tells how when the fabled Arabian bird renewed each hundred years its vigor and eternal youth, the birds of the air all helped to build its nest. The eagle and the wren contributed alike to this labor of love and duty; each brought what he could, nor ceased till the task was done. And surely science and art—especially our science and art—are old and new: renewing day by day; burning, by a voluntary self-cremation, old theories, half facts, hasty conclusions, and substituting more accurate observations, truer inferences, more solid judgments. To this great end we may all do something; but, labor as we may, our task will never be finished, for not once in a hundred years, as the fable runs, but every day and all day long, the process goes on: a daily death, a daily renewal, as in our body's growth—a death of error, a development of truth.

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THE BROMIDES IN SEA-SICKNESS.—The large claims made by Dr. G. M. Beard for bromization as a specific against sea-sickness, have excited much comment. Experience, so far, seems to show that the drug undoubtedly does prevent sea-sickness in many cases. The claim, however, that it is as sure a preventive as vaccination is of small-pox, is rash, and as yet by no means substantiated.

A fatal accident, probably from the use of bromides, was reported not long ago. It occurred to a physician, Dr. Reed, of Hartford, who was treating himself upon the plan of bromization in order to prevent sea-sickness. He took, it is reported, *eleven ounces* of the bromide of sodium. Temporary insanity was produced, and the patient threw himself overboard, and was drowned.

Another case is related, in which the bromides were given to a child for the same purpose. The result was a temporary impairment of vision. The amount of the drug taken is not known.

A third case, showing the accumulative effect of the drug, has been reported.

# Reports of Societies.

## THE AMERICAN OPHTHALMOLOGICAL SOCIETY.

*Seventeenth Annual Meeting, held in Newport, R. I., July 27 and 28, 1881.*

WEDNESDAY, JULY 27TH—FIRST DAY—MORNING SESSION.

THE society met in the Masonic Building, and was called to order at 10 A.M. by the President, DR. H. D. NOYES, of New York.

The President made a few congratulatory remarks, after which he appointed as *Business Committee*, Drs. Hasket Derby, of Boston; W. H. Carmalt, of New Haven, Conn.; John Green, of St. Louis; G. C. Harlan, of Philadelphia; and A. Mathewson, of Brooklyn.

As *Committee on Bulletin*, he appointed Drs. George Strawbridge, of Philadelphia; and H. G. Miller, of Providence, R. I.; and as *Auditing Committee*, Dr. O. F. Wadsworth, of Boston.

NEW MEMBERS.

Drs. H. W. Bradford, of Boston; William F. Mittendorf, of New York; S. C. Ayres, of Cincinnati; and J. B. Worrell, of Terre Haute, were elected members.

*The Committee on Bulletin* announced as the first paper, one

ON THE ADMINISTRATION OF ANÆSTHETICS IN BRIGHT'S DISEASE OF THE KIDNEYS, AND ON SOME CASES OF SUDDEN DEATH AFTER CATARACT OPERATIONS,

by DR. WILLIAM F. NORRIS, of Philadelphia.

The paper contained the histories of two cases in which death occurred after the extraction of cataract. They had three features in common: 1st, both patients were etherized; 2d, both patients died comatose; and 3d, careful autopsical examinations revealed no organic lesions except those of Bright's disease of the kidneys.

The first patient was a child, five months old, which was operated upon for congenital cataract. It recovered consciousness, but died a few hours subsequently. There was intense congestion, cloudy swelling and fatty degeneration, most marked in the cortical portion of the kidneys. There was no history of hereditary disease.

The second patient was a woman sixty-eight years old. She had gouty knuckles. The urine was not examined before the operation. A cataract was extracted from the right eye. She recovered from the anæsthetic readily. On the evening of the day following, the urine was somewhat diminished in quantity and loaded with urates. The patient was feverish. On the fourth day she sat up, and improvement continued until the ninth day, when her general symptoms began to be unfavorable; on the sixteenth day she became delirious; on the seventeenth day the urine was examined and found to contain albumen and fatty and granular casts, and it had a specific gravity of 1008. The patient died on the eighteenth day after the operation.

The kidneys showed marked congestion, increase of interstitial tissue, degeneration of the epithelium, and numerous casts in the tubules.

The next paper was read by DR. HASKET DERBY, of Boston, and entitled

ANÆSTHESIA AND NON-ANÆSTHESIA IN THE EXTRACTION OF SENILE CATARACT, WITH COMPARATIVE STATISTICS OF TWO HUNDRED CASES.

The lesion was hard, uncomplicated senile cataract. The comparison was between one hundred cases of that character in which the operation was performed with ether, and one hundred like cases in which it was performed without ether.

The average age of the patients operated upon with ether was $61\frac{7}{10}$; without ether $65\frac{8}{10}$.

There was loss of vitreous with ether in 14 cases; without ether in 9 cases. The duration of treatment with ether was $18\frac{3}{10}$ days; without ether $16\frac{5}{10}$ days. Secondary operations were performed in 22 of the patients primarily operated upon with ether, and 14 of those who had been operated upon without it. Success had followed; that is vision, $\frac{1}{10}$ or more, in 81 cases with ether, and 89 without.

Partial success, vision $\frac{1}{7}$ to $\frac{1}{60}$, in 8 cases with ether, and 9 without. There was reasonable prospect of success after a secondary operation in 2 cases with ether, and 1 without.

Total failure occurred in nine cases with ether, and 1 without.

Of those operated upon with ether, 91 recovered an appreciable amount of vision, and 99 of those operated upon without ether.

Von Graefe's operation was performed. A mixture of vaseline and eserine was applied before operating. The eyes were kept closed seven days after the operation. The assistance of the conscious patient in all the steps of the operation he regarded as highly desirable.

The general subjects, *The possible relation which might exist between the administration of ether and fatal results in cases of Bright's disease*, and *The influence of ether upon the success in cataract operation*, were then before the Society for discussion.

DR. MATHEWSON, of Brooklyn, gave negative evidence upon the first subject.

DR. ROOSA, of New York, thought that too early opening of the eye after cataract extraction was deleterious; but, with regard to extracting cataracts without anæsthetics, it seemed to him that Boston patients had been much better trained than those which he had met either in Vermont or New York. He felt much safer with anæsthesia, and would take the risk, even after Dr. Norris's excellent paper, believing that the dangers to the eye without it more than balanced the unfavorable results which might follow with it.

DR. STRAWBRIDGE, of Philadelphia, remarked that, in deciding whether or not ether should be used, the danger from the shock of the operation must not be overlooked. He had extracted cataract with ether only twice, and had not found any difficulty in performing the operation without anæsthesia.

DR. H. W. WILLIAMS, of Boston, thought that the advantages afforded by ether were positive and considerable. He agreed with Dr. Derby that the eye should be left alone for several days, except when symptoms supervened which warranted the conclusion that something was going wrong.

DR. CARMALT, of New Haven, cited two cases in which death occurred after extraction without anæsthetics. In one, death occurred within four hours; and in the other, several days after the operation. In the latter case there had been diabetes mellitus, but the patient had apparently been well for some

time. In the first case, that of a woman, fifty-five years old, death seemed to have occurred from shock, which perhaps would have been avoided by the use of an anæsthetic. There was hypertrophy of the left ventricle with a double murmur, although the patient had never had any symptoms of cardiac disease, and it was regarded as a contra-indication to the use of anæsthetics.

Dr. Norris believed that the action of ether in many cases of heart disease was beneficial rather than otherwise. But kidney disease had been recognized as a serious complication in any case which required a surgical operation.

The President had used ether where he knew kidney disease existed. He had not had a fatal result from the use of anæsthetics, although he had employed them in a very large number of cases. During the last year he had been accustomed to administer ether, and sometimes chloroform, to the production of primary anæsthesia when the first incision was made, and then the patient allowed to completely regain consciousness so that he could give his co-operation in the subsequent steps of the operation. On the whole, he gave anæsthetics for cataract operations less frequently than formerly.

The discussion was continued by Drs. O. F. Wadsworth, of Boston; J. S. Prout, of Brooklyn; B. J. Jeffries, of Boston; C. J. Kipp, of Newark, N. J.; and Dr. Derby. The use of anæsthetics in cataract operation was favored by a majority of those who discussed the question.

THE PECULIAR LOOK OF THE COLOR-BLIND

was the title of a paper read by Dr. B. Joy Jeffries, of Boston.

The peculiarity to which attention was directed was an "aimlessness of look," "a peculiar, dazed, half-anxious appearance of the eye," perhaps more marked in females than in males. No explanation for it was offered. It had been substantially described by Wilson.

Dr. W. S. Little, of Philadelphia, gave the history of a case of

PERSISTENT HYALOID ARTERY.

It was accompanied by an illustration. The condition was accidentally discovered with the ophthalmoscope while examining the eye of a boy six years of age. Dr. Little also reported four cases of

GLAUCOMA,

and in all of them there was a tendency to hereditary to the same, and the patients had hypermetropia and hemorrhoids. In all the cases the disease was bilateral.

The paper was discussed by the President, who cited two cases which sustained Priestly Smith's view regarding the essential pathology of glaucoma, namely, an exceedingly narrow circumlental space.

Dr. John Green, of St. Louis, then read a paper on

IRIDOTOMY, WITH DIVISION OF AN ANTERIOR SYNECHIA, BY THE USE OF WECKER'S PINCE-CISEAUX.

The patient was a child, seven years old. A wound, inflicted with a pen-knife, involved the cornea, iris, and lens. The operation for the synechia consisted in opening the cornea with a Graefe's knife, followed by the introduction of the scissors, and snipping it off close to Descemet's membrane. Recovery was good, and vision, practically nothing before, was raised to one-twentieth by the aid of a three inch convex lens.

Dr. George C. Harlan, of Philadelphia, reported

A CASE OF CONGENITAL PARALYSIS OF THE SIXTH AND SEVENTH NERVES ON BOTH SIDES.

The patient had never had diplopia. Dr. Harlan proposed to divide the internal recti muscles completely, and then remove a fold of conjunctival tissue from the outside of the eyeballs.

Dr. Francis B. Loring, of Washington, D. C., pointed out

A SOURCE OF DANGER IN THE EYE-GLASS FRAME AS COMMONLY MANUFACTURED.

The point of danger consisted of the small spike on the inner surface of the eye-glass frame, which in two of his cases had been driven into the eye. The remedy was to put the catch upon the outside of the frame.

Dr. S. Theobald, of Baltimore, reported a case in which useful vision was maintained through a number of years by the aid of

A TOTALLY DISLOCATED LENS.

The boy, twelve years of age, was extremely myopic, and the unusual convexity of the dislocated lens was believed to be its cause. Dr. Theobald regarded the case as unique.

The paper was discussed by Drs. Harlan, Noyes, and Williams, who had met with similar cases.

Dr. Hasket Derby, of Boston, exhibited Dr. H. W. Bradford's

ELECTRO-MAGNET,

which raised a bar four times its own weight. Remarks concerning the use of this, and Dr. Gruening's instrument, in the removal of foreign bodies from the eye, were made by Drs. Kipp, Jeffries, Noyes, and Prout, all of whom had used them successfully.

Dr. S. D. Risley, of Philadelphia, then read a paper on

THE COMPARATIVE VALUE OF THE MYDRIATICS IN OPHTHALMIC PRACTICE.

His conclusions were as follows:

*Duboisia* was used in comparison with atropia in 32 eyes; was found to be superior in 7, equal in 12, and inferior in 9.

*Homoatropia* was used in comparison with atropia in 70 eyes; was found to be superior in 17, and equal in 23.

*Homoatropia* was used in comparison with duboisia in 38 eyes; was found to be superior in 8, equal in 18, and inferior in 11.

*Hyoscyamine* was used in comparison with atropia in 29 eyes; was found to be superior in 4, equal in 13, and inferior in 10.

*Hyoscyamine* was used in comparison with duboisia in 5 eyes; was found to be superior in 4, equal in 1, and inferior in none.

*Hyoscyamine* was used in comparison with homoatropia in 4 eyes; was found to be superior in 1, equal in 1, in none inferior.

The paper was discussed by Drs. John Green, F. B. Loring, Theobald, Norris, Little, Roosa, Bartlett, Ayres, Wadsworth, and the President.

The society then adjourned, to meet at 7.30 P.M.

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First Day—Evening Session.

The society was called to order at 8 P.M. by the Vice-President, Dr. William F. Norris, of Philadelphia.

The first paper was read by Dr. C. J. Kipp, of

Newark, N. J., and consisted of the histories of two cases of

SARCOMA OF THE CHOROID,

with peculiar clinical features. In one case the tension in both eyes was equal. In the other case the tension was not sufficiently increased to enable him to say that it was decidedly so. The cases showed that even when choroidal tumors nearly filled the eye, they did not always produce increased tension, and also that the retina was not necessarily detached.

The paper was discussed by Drs. John Green, J. F. Noyes, of Detroit, and the President, all of whom had seen choroidal tumors without detachment of the retina.

WHAT CONSTITUTES INSUFFICIENCY OF THE INTERNAL RECTI MUSCLES?

was the title of a paper read by DR. S. THEOBALD, of Baltimore.

The practical point in the paper was whether or not it was necessary to correct internal insufficiency amounting to only 8°, 10°, or 11°.

DR. WADSWORTH regarded 5° or 6° as unimportant ordinarily.

DR. ROOSA did not attach any very great importance to the symptom, whether the patient was asthenopic or not.

DR. JOHN GREEN had seldom used prismatic glasses in practice; and, when used, it was usually for the positive diplopia which existed.

DR. RISLEY had found lateral deviation very infrequently, and was surprised to learn that Dr. Theobald had met with it so frequently.

THE PRESIDENT was very positive that such a thing as latent insufficiency of muscles existed, and out of eighteen hundred cases he had set aside two hundred and fifty as having sufficient muscular asthenopia to cause notice, if not treatment. In some cases where the insufficiency had amounted to 8°, he had regarded it as worthy of note, and possibly there might be need of prisms.

The discussion was continued by Drs. R. H. Derby, Roosa, Wadsworth, Risley, Hay, Harlan, Kipp, Theobald, and Buller.

DR. S. D. RISLEY next read a paper on

WEAK EYES IN THE PUBLIC SCHOOLS IN PHILADELPHIA.

Among the conclusions reached were the following: that the emmetropic eye is the model or standard eye; that myopia commences in the primary classes with a low percentage, and steadily increases; that the percentage of increase is lower in the schools of Philadelphia than in the schools of Europe; that hypermetropic eyes were more numerous than the emmetropic and myopic combined; that there was an evident and close relation between acquired myopia and school-life, for which additional methods of examination were responsible to only a limited degree. The number of eyes examined was two thousand four hundred and twenty-two.

DR. CHARLES H. WILLIAMS, of Boston, gave the histories of two cases in which he

REMOVED STEEL CHIPS BY MEANS OF BRADFORD'S ELECTRO-MAGNET.

The society then adjourned, to meet at 9.30 A. M. on Thursday.

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THURSDAY, JULY 8TH—SECOND DAY.

The society was called to order at 9.30 A.M. by THE PRESIDENT.

The first paper was read by DR. F. BULLER, of Montreal, in which was reported

A CASE OF SUDDEN AND COMPLETE LOSS OF VISION AFTER LARGE DOSES OF QUININE.

The diagnosis was acute retrobulbar neuritis. The patient was a puerperal woman who was threatened with septicæmia. While taking quinine in twenty-grain doses she suddenly and completely lost her vision. She recovered her usual health and strength after twenty-two months, with perfect central color-perception and vision, but total abolition of peripheral color-perception and vision.

DR. JOHN GREEN regarded the occurrence of such cases as very exceptional.

The paper was discussed by Drs. Roosa, Green, Risley, and Buller.

DR. JOHN GREEN then read a paper sent by DR. J. P. WORRELL, of Terra Haute, on

MARKED NARROWING OF THE FIELD, WITH DIMINISHED ACUITY OF VISION, FOLLOWING THE USE OF DUBOISIA, AND PRESUMABLY DUE TO THE USE OF THAT DRUG.

DR. GEORGE C. HARLAN, of Philadelphia, placed upon record

A CASE OF INTERMITTENT CONCOMITANT DIVERGENT STRABISMUS.

The intermission was of the tertian type, and suddenly broke up on the occurrence of the squint on the off-day, but the strabismus had been more or less apparent since.

DR. ROOSA reported a case of

CONCUSSION OF THE VITREOUS, CHOROID, AND RETINA, BY A BULLET.

The ball entered the body just over the lachrymal sac, went down over the nose, over the cheek, and lodged about the glenoid fossa. There was no loss of vision immediately after the injury.

DR. C. F. WADSWORTH, of Boston, then read a paper on

NEUROTOMY OF OPTIC AND CILIARY NERVES.

He gave a detailed history of fifteen cases. In none was there evidence of sympathetic trouble in the fellow eye. In none did the sensitiveness of the eye return. In all the cases in which there was vascularity of the cornea, there was some sensitiveness of the cornea shortly after the operation. The eyeball atrophied to a certain extent. Mobility of the eye was good in all the cases.

DR. BULLER had performed neurotomy in three cases with satisfactory results.

THE PRESIDENT had performed the operation, and in the majority of his cases it had been successful. Yet his own feeling had been that the operation was of doubtful propriety.

DR. JOHN GREEN, of St. Louis, presented his

OBSERVATIONS ON SOME THERAPEUTICAL APPLICATIONS OF PILOCARPINE.

He had used Merck's preparation, two grains to the ounce of water, and had seen good results in the treatment of photophobia and also strabismus. The pain produced by the drug was very much less than that caused by eserine.

DR. THEOBALD exhibited a set of his lachrymal probes, properly made by an instrument-maker at 79 North Howard street, Baltimore.

THE PRESIDENT remarked that he had a set made by Reynders, which served excellently.

ELECTRICITY FOR THE CURE OF CATARACT.

THE PRESIDENT reported a case which belonged to the group of cataracts said to have been cured by the use of electricity. The patient, a woman, aged seventy, had incipient cataract, which consisted of a few striæ with diffused turbidity of each lens, and the pupils were very small. At the time she began the use of electricity there was great haziness of all objects, and reading was almost impossible. After the lapse of time the diffused haziness cleared up. Vision, before the use of electricity, was $\frac{20}{70}$ in one eye, and $\frac{20}{100}$ in the other. Twenty months subsequently, after the cure had been effected, as it was said, her vision was $\frac{20}{100}$ in one eye, and $\frac{20}{100}$ in the other. Examination with the ophthalmoscope revealed evidence of chronic choroiditis. Twenty months previously he had noted slight choroidal change. The case, then, was at first one of subacute choroiditis with cataractal complication, and the condition of things which gave rise to hazy vision was haziness of the vitreous, which cleared up under the electrical and hygienic treatment which the patient received; but the striæ in the lenses and the diffused haziness remained unchanged.

THE PRESIDENT also reported a case of

PULSATING EXOPHTHALMOS

which he finally cured by ligating the anterior orbital vein at the spheno-maxillary fissure. He believed that it was a mild form of artero-venous aneurism, in which the carotid communicated with the cavernous sinus, and that the ligature gave rise to a thrombus, which cured the pulsating exophthalmos.

DRS. CARMALT and HARLAN also referred to pulsating orbital tumors.

SNELLEN'S CLAMP AS A FORCEPS.

DR. JOHN GREEN said he had used Snellen's clamp, making both blades alike, as a forceps to assist him in performing his operation for entropion.

THE PRESIDENT suggested, as a measure to prevent the pedicle of the flap from wrinkling, which was taken from the forehead in plastic operations to repair the waste of tissue in removing extensive

EPITHELIOMA OF THE INNER ANGLE OF THE ORBIT,

to cut away skin enough upon the nose to make a bed for the pedicle to lie in.

The following papers were read by title: "On the Clinical Resemblances Between Sound and Color;" "Bony Growth of the Conjunctiva;" "A Remarkable Case of Splenic Disease, with Retinitis Leucæmica," by E. G. Loring, M.D., of New York; "A Case of Pulsating Tumor of the Orbit," by H. S. Schell, M.D., of Philadelphia; "Cicatrices of the Face, Involving the Eyelids and Orbit, and the Means to be Adopted for Remedying the Defects which they Produce;" "Malignant Disease of the Bones of the Orbit and Face," by C. S. Bull, M.D., of New York. "Ulceration of the Cornea Relieved by the Removal of Cerumen from the Ears," by James A. Spalding, M.D., of Portland, Me.

After the election of officers for the ensuing year, the society adjourned, to meet at Lake George in 1882.

TORNADOES AS A CAUSE OF INSANITY.—Six of those who survived the terrible tornado at New Ulm, Minnesota, have become insane from the shock.—*Med. and Surg. Reporter.*

## THE AMERICAN OTOLOGICAL SOCIETY.

*Fourteenth Annual Meeting, held in Newport, R. I., July 26, 1881.*

MORNING SESSION.

THE Society met in the Masonic Building, and was called to order at 10.30 A. M., by the President, DR. J. ORNE GREEN, of Boston, who appointed as *Business Committee*, Drs. Roosa and Noyes of New York, and Prout of Brooklyn.

Nominations for membership were made as follows: Dr. Gorham Bacon, of New York; Dr. George C. Harlan, of Philadelphia; Dr. A. Alt, of St. Louis; and Dr. S. C. Ayers, of Cincinnati.

The following gentlemen were elected members: Drs. W. H. Carmalt, of New Haven, Conn.; F. B. Loring, of Washington, D. C.; S. B. St. John, of Hartford, Conn.; and R. A. Reeve, of Toronto, Canada.

Drs. Gorham Bacon and W. M. Carpenter, of New York, and U. H. Brown, of Syracuse, N. Y., were elected members by invitation.

The first paper was read by DR. S. THEOBALD, of Baltimore, entitled

SUGGESTIONS REGARDING THE TREATMENT OF SUPPURATIVE OTITIS.

DR. THEOBALD had used, with marked success, a powder composed of equal parts of boracic acid and oxide of zinc, introduced freely by insufflation. Its action was mild and non-irritating, and it could be used in the painful stage of otitis media.

DR. H. D. NOYES, of New York, had used, with special advantage, a powder composed of equal parts of tannin and boracic acid.

DR. SEXTON, of New York, had used boracic acid with good results in chronic cases, and more especially when it had been combined with twenty-five or fifty per cent. of calendula.

DR. KIPP, of Newark, N. J., did not use powders, because he regarded it as good surgery to give vent to accumulations of pus. He had used oxide of zinc and morphia with benefit in desquamative otitis.

DR. BURNETT, of Philadelphia, had used boracic acid, usually pure, with satisfactory results, but had applied only enough to cover the walls, and rather as a dryer in the latter stages of muco-purulent affections.

THE PRESIDENT had used boracic acid satisfactorily, and introduced it in large quantities. He asked what the action of the oxide of zinc was.

DR. THEOBALD regarded its action as mildly astringent.

THE PRESIDENT had used the oxide of zinc chiefly as a dilutor, and had always attributed its great value to its efficacy as a drying powder. The only impalpable powder of boracic acid which he had been able to obtain was Mawson's.

DR. JOHN GREEN, of St. Louis, had used oxide of zinc with positive advantage. He believed that it underwent changes in the discharges, so that a continuous supply of soluble oxide was furnished which rendered its action constant.

DR. BUCK thought that Reynders' powder-blower was more convenient than a quill. It was durable, and could be easily introduced into the meatus.

DR. SEXTON referred to a case in which the meatus was packed so full of boracic acid as to arrest the discharge. He cautioned patients to immediately cleanse the ear upon the development of pain after

the powder had been used, and he preferred to introduce the powder through a speculum.

Dr. D. B. St. John Roosa, of New York, then read a paper on

THE VALUE OF OPERATIONS IN WHICH THE TYMPANIC MEMBRANE IS INCISED.

He said that he had abandoned all the older operations, such as cutting off tendons, use of acids, incising the drumhead, etc., in cases of *chronic proliferous non-suppurative inflammations* (except where, perhaps, there were adhesions between an ossicle and the promontory, etc.), and there was no suspicion of retained mucus or other fluid in the tympanic cavity.

Paracentesis, for the most part, in acute and subacute cases, was as great an addition to our means of effecting cures as had ever been made.

Red and swollen as drumheads might be, however, the proper use of leeches saved the patients from the cutting operation in some cases.

When the operation was performed, he favored the small incision, and used a small knife. Gentleness must always be observed, and too early interference should be avoided.

A prolonged discussion followed, and was participated in by Drs. C. J. Blake, of Boston; A. H. Buck, of New York; C. J. Kipp, of Newark, N. J.; H. D. Noyes, of New York; J. S. Prout, of Brooklyn; C. H. Burnett, of Philadelphia; Samuel Sexton, of New York; E. W. Bartlett, of Milwaukee, Wis.; A. Mathewson, of Brooklyn; and S. Theobald, of Baltimore.

Dr. Roosa's general position concerning operative interference for the improvement of impaired sense of hearing in chronic non-suppurative otitis, was uniformly endorsed. A large majority favored paracentesis in acute cases, and a large majority, also, favored the small incision and early performance of the operation. By a large majority, also, the operation had been performed without the use of anæsthetics.

The variety of instruments used numbered eleven, and included needles, bayonet-points, hoe-shaped, pointed like a cataract-knife, etc.

Dr. Sexton was opposed, in acute cases, to general and free incision of the drumhead, and relied upon such remedies as the sulphide of calcium, tincture of aconite for subduing inflammative and controlling neuralgic pains. He had abandoned the use of leeches, believing them to be unnecessary and often detrimental.

THE TUNING-FORK IN DIAGNOSIS,

was the title of a paper read by Dr. D. B. St. John Roosa, of New York, and it contained the following propositions:

"I. If one ear be normal as to hearing-power, and a vibrating tuning-fork be placed upon the vertex or the teeth, if its sound be intensified in the ear whose hearing-power is diminished, there is disease of the external ear or middle ear, but no lesion of the labyrinth or nerve.

"II. If, under the same conditions of a sound ear on one side, while the hearing-power of the other is impaired, the tuning-fork be not heard better in the worse ear, even if the meatus be stopped by the finger or the like, there is disease of the labyrinth, the acoustic nerve, or brain.

"III. If the vibrating tuning-fork be heard better on the mastoid than when placed in front of the meatus, there is disease predominantly of the middle ear.

"IV. If the tuning-fork be heard better through the air than through the bones, there being impairment of hearing, the disease which gives rise to this symptom is situated in the brain, nerve, or labyrinth."

Dr. Blake, of Boston, said that Dr. Roosa's second proposition raised the question again of conduction of vibration, through fluids. The results of experiments which he had been making, but had not completed, thus far went to show that considerable impairment of the vibrations attended their transmissions through fluid in a solid or closed space. It was possible, therefore, to imagine a condition in which, as the result of intralabyrinthian pressure, the vibrations of the organ of Corti would be impaired.

The paper was also discussed by Dr. John Green, of St. Louis.

The President, Dr. J. Orne Green, of Boston, then read a paper entitled

REMOVAL OF A FOREIGN BODY BY DISARTICULATION OF THE AURICLE.

Dr. Green removed the bullet in three pieces, and in the manner indicated. The patient lived twelve days.

The paper was discussed by Drs. Roosa and Noyes.

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Afternoon Session.

The society was called to order at 4 P.M. by The President.

The first paper was read by Dr. C. H. Burnett, and entitled

MALIGNANT GROWTH IN THE NASO-PHARYNX, WITH EARLY AURAL SYMPTOMS,

which was due to obstruction of the pharyngeal extremities of the Eustachian tubes. The patient was a physician, who ascribed the development of the primary disease to Turkish baths.

The paper was discussed by Dr. Roosa.

Dr. C. J. Kipp, of Newark, N. J., then read the history of a case of

EPITHELIOMA OF THE MIDDLE EAR.

It proceeded from a previous otorrhœa.

SELECTION OF TEST-WORDS ACCORDING TO THEIR LOGOGRAPHIC VALUE,

was the title of an oral communication made by Dr. C. J. Blake, of Boston. By logographic value was meant the intensity of tone produced by the amount of air expelled.

SUDDEN AND COMPLETE LOSS OF HEARING DURING AN ATTACK OF MUMPS,

was the title of a paper read by Dr. A. H. Buck, of New York.

The histories of two cases were given. The parotid region was equally affected in both, yet hearing was lost in only one ear in one case, and in both in the other.

The paper gave rise to a prolonged discussion concerning middle- and inner-ear disease, and was participated in by Drs. Burnett, the President, Roosa, Kipp, John Green, Prout, and Sexton. The opinions seemed to be somewhat diverse upon the point whether, in such cases, the primary lesion was in the inner or in the middle ear.

Dr. Buck then read a paper containing the history of a case of

SMALL VASCULAR TUMOR OF THE MEMBRANA TYMPANI.

Dr. Samuel Sexton exhibited a flexible Eustachian catheter (see Medical Record, vol. xx., p. 82).

Dr. Roosa called attention to Taylor's ear-douche, manufactured by Reynders, of New York.

Dr. Buck mentioned Reynders' ear-douche, especially serviceable in treating children.

After the election of officers, the society adjourned, to meet at 11.30 A.M. on the day previous to the annual meeting of the American Ophthalmological Society in 1882, and in the same place.

## Progress of Medical Science.

Dry Dressings with Powdered Salicylic Acid.—The good results obtained in the treatment of ulcers, wounds, etc., by the application of powdered iodoform, have led to a similar series of experiments with powdered salicylic acid, at the surgical clinic of Erlangen. The method, as described by Schmid, is very simple: The wound is first carefully cleansed and disinfected with a five per cent. solution of carbolic acid. Where practicable, sutures are applied and the closed wound covered with a layer of very finely pulverized salicylic acid, one-half centimetre high and sufficiently extensive to overlap the wound one centimetre in every direction. Excavated wounds, after being cleansed, are carefully plugged with acid, and then likewise powdered, and the whole protected by a piece of antiseptic gauze or salicylated cotton. Wounds thus treated secrete only a small amount of wound-serum, which coalesces with the dressing so as to form an adherent crust. No smell of decomposition manifests itself; on the contrary, several wounds of long standing were thoroughly deodorized by this method, after ordinary Listerian dressings had been ineffectually employed. At the same time the temperature of the patient, if elevated, sinks as much as 2° C. or more. As the dressing appears to promote a luxuriant growth of granulations, it is more applicable to excavated than to surface wounds.—*Deutsche Zeitschrift f. Chirurgie*, Bd. xiv.; *Allgem. med. Central-Zeitung*, June 8, 1881.

Iodoform Dressings in Tubercular Diseases of the Bones and Joints.—Following the recommendations of Mosetig-Moorhof (*Wiener med. Wochenschrift*, No. 43 et seq., 1880, and No. 13, 1881), iodoform has recently been given a thorough trial in Billroth's wards, with very excellent results. It was found to be powerfully antiseptic, and especially applicable to cases not adapted for the ordinary Listerian dressings, as in operations in the mouth, pharynx, rectum, etc. Under its influence, wounds secrete only a minimal amount of serous fluid, and heal rapidly and painlessly. There is no fever, and, what is more important, iodoform has no toxic effect on the system. The usual method of application adopted by Mikulicz is to plug the wound with powdered iodoform or iodoformized gauze, cover this with cotton, and finally with any kind of waterproof tissue. Mikulicz also employs sticks made of one part of iodoform to two parts of gelatine. He also uses an ethereal solution (1:5). The latter was injected directly into the tissues of a joint affected with fungous arthritis without fistulæ, and brought about complete subsidence of the disease. Fifteen injections of half a Pravaz syringeful at a time were made. The agent was also employed with great success in the treatment of diphtheritic and phagedenic ulcerations, giving almost immediate relief from pain, and hastening the development of healthy granulations.—*Tenth Congress of the Society of German Surgeons*, April, 1881.

Transplantation of Marrow.—The question whether, after fractures, the internal callus originates in loco, or as an ingrowth from the periosteal callus, has at length been decided in favor of the former theory, by experiments the results of which Paul Bruns has described in the "Proceedings of the Tenth Congress of German Surgeons." Bruns transplanted cylindrical pieces of marrow from the diaphysis of the tibia or femur, beneath the skin of other parts of the body, and found that, after a period of twelve to fourteen days, several points of ossification appeared in each graft, and finally (twenty to twenty-four days) coalesced so as to form bony plates. These experiments were successful in twelve out of nineteen instances, but never when the graft was transferred from one animal to another. Both types of ossification were noted, that is, the direct transformation of marrow into bone through the medium of osteoid substance, and the indirect form through the medium of cartilage. The active agents were principally the osteoblasts contained in the transplanted marrow, the other tissue-elements remaining passive. The newly formed bone possessed all the characteristics of true osseous tissues, but would probably in time disappear entirely from its abnormal situation, as continued investigation demonstrated a gradually increasing number of giant cells, whose function was supposed to be one of absorption.

Croupous Inflammation of Steno's Duct.—Under the above heading Stilling reports the case of a patient who, three years before, was suddenly attacked, while dining, with a swelling in the right cheek, which proved to be a distended and enlarged parotid gland. On the following day the patient, happening to squeeze the tumor firmly, spat out a small amount of a purulent, shreddy mass, which was immediately followed by a copious discharge of thin saliva, whereupon the swelling collapsed, and by the next morning had entirely disappeared. A similar swelling occurs every three to six months, but the same manœuvre causes its disappearance. Stilling believes that many cases of parotitis occurring during the course of infectious diseases, especially typhoid fever, are due to croupous inflammation of the lining membrane of Steno's duct, and consequent stenosis. For the relief of such swellings he advises the passage of a fine probe.—*Wiener medicin. Wochenschrift*, No. 19, 1881.

Tuberculosis of the Mammary Gland.—An authentic case of this exceedingly rare affection is reported by Le Dentu, in the *Revue de Chirurgie*, No. 1, 1881. The patient, a girl of twenty-two years, who had suffered from scrofulous diseases in her youth, was treated in February, 1879, for a chronic abscess of the left breast, which healed after incision and drainage. One year later the same breast became uniformly enlarged, and had to be removed by amputation. On examination it was found permeated with abscesses lined with fungous masses, and containing tubercles possessing all the characteristics of this neoplasm.

## ARMY NEWS.

*Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from August 7, 1881, to August 13, 1881.*

STERNBERG, GEO. M., Major and Surgeon. Relieved from duty in connection with the National Board of Health, to proceed from Baltimore, Md., to San Francisco, Cal., and report to Comdg.-General, Dept. of California, for assignment to duty. S. O., 182, A. G. O., Aug. 10, 1881.

CORSON, J. K., Capt. and Asst. Surgeon. The leave of absence granted him in S. O. 61, May 31, 1881, Dept. of Arizona, extended two months. S. O. 179, A. G. O., Aug. 6, 1881.

HALL, J. D., Capt. and Asst. Surgeon. Granted leave of absence for one month, with permission to apply for three months' extension, to take effect on final adjournment of G. C. Martial, of which he is Judge Advocate. S. O. 141, Dept. of Dakota, Aug. 4, 1881.

SEMIG, B. G., Capt. and Asst. Surgeon. Granted leave of absence for six months, with permission to leave the Dept. of the Platte. S. O. 182, C. S., A. G. O.

PERLEY, H. O., Capt. and Asst. Surgeon. Granted leave of absence for four months. S. O. 178, A. G. O., Aug. 5, 1881.

WHITE, C. B., Major and Surgeon. Died at Wilton, Conn., Aug. 10, 1881.

## Medical Items and News.

VELULI IN SPECULO.—"The Nineteenth Century Seen Through a Speculum," is said to be the title of the memoirs of his time which M. Ricord has prepared for his final literary legacy. These memoirs are not to be published until thirty years after his death. "But," says the chronicler of the *Union Médicale*, when, to a select and friendly audience, he reads a few pages, "it is Rabelais, Brantome, and one of the stories of the amiable Queen of Navarre to which the hearer seems to be listening."

From which it may be inferred that the prospective memoirs are witty and nasty. It is a curious psychological fact, that as old age and impotency come on, the fondness for hearing and relating stories that are a little "off," not to say lewd, often increases.

A POST-MORTEM EXAMINATION ON PROFESSOR SKODA was made by Dr. Chiari. The brain was found to be normal; its weight was only forty-five ounces, which is somewhat below the average. The heart was hypertrophied, and the aortic valves were shrivelled, thickened, and calcified at the base, so as to be manifestly incompetent. The aorta was dilated and atheromatous. The coronary arteries atheromatous, calcified, and smaller than normal at their orifices. The rest of the body was normal or nearly so.

THE STATE BOARD OF HEALTH held a meeting at Niagara Falls on the 11th instant. Dr. Harris read a paper setting forth a proposition for a State plan of vaccination, with a view to the suppression of small-pox. A resolution was adopted recommending the establishment by the State of a vaccine farm. Dr. Smith, of New York, read a report of the conference held at Chicago on June 30th in regard to the introduction and spread of small-pox in the United States. The gist of the report was that immigrants should be inspected closely everywhere, as they are on trains at Buffalo. Resolutions were then adopted that the New York State Board of Health co-operate with the national, State, and local authorities for the prevention of the introduction of small-pox into this country by immigration. The Hon. Erastus Brooks called attention to the resolution of the board in regard to the unsanitary condition of the school-houses in the towns and villages of the State, and the urgent necessity of following this up until public attention became thoroughly awakened to the important relations of school architecture and hygienic conditions to the health of the children. The Committee on Public Buildings was empowered to employ expert aid in securing a complete reform of this shameful neglect of the people. The meeting then adjourned until the regular quarterly meeting in November, at Albany.

THE HEAT IN EUROPE has been intense the present season, and a high mortality rate has been the result. In London the thermometer has registered at times 97° in the shade. In Paris and other parts of France the temperature in July rose, on some days, to 98°, 100°, and even, in one place (Cape Beárn), to 104°.

MR. ERASMUS WILSON has been elected President of the Royal College of Surgeons. The English medical press growls because he is not a representative surgeon. He was elected, however, by a handsome majority.

THE PARIS HOSPITALS are so overcrowded, that in many wards hammocks have to be hung to accommodate the overflow. The prevailing diseases are fevers and small-pox. Paris has sixteen hospitals, with a total capacity of eight thousand three hundred and sixty-six beds. Besides these, there are numerous asylums, and three military hospitals which will accommodate two thousand patients. There is talk of building two new hospitals.

BIOLOGICAL STUDY.—Princeton College is to have a post-graduate course in biology, the step having been taken with the hearty co-operation of President McCosh and several members of the Board of Trustees. It will be established in connection with the Geological and Zoological Museums.

TRICHINÆ IN NEW ORLEANS.—At a meeting of the Sanitary Association in New Orleans, on August 11th, Dr. C. B. White reported that two thousand four hundred and eighty-four hogs had been examined by the microscope at the slaughter-house, and six hogs infected with trichinæ were found, all of which came by rail from St. Louis.

HOW YELLOW FEVER IS TREATED AT PANAMA.—Commenting upon the large number of deaths from yellow fever at Panama, a dispatch says: "It may interest physicians in the southern section of the United States to learn that the canal treatment for isthmus fever is: first, an emetic; second, a purgative; third, another emetic; fourth, another purgative, and so on. No quinine is administered. Is it to be wondered at that people die under such a system of treatment?

THE INCREASE OF INSANITY IN NEW YORK.—Dr. Eagan, Assistant Medical Superintendent of the Ward's Island Lunatic Asylum, has given some figures in regard to the increase of insanity in New York City. The number of patients at the Ward's

Island Asylum is increasing at the rate of one hundred a year. On January 1st there were 1,150 inmates; now there are 1,220, an increase of 70 in seven months. That is over discharges and deaths. During 1880 there were 436 admitted, 234 discharged, and 151 died. The increase in the number of patients in the asylum last year was 60, the smallest number in five years. It has already exceeded that number so far this year. A great many insane persons sent here are found to belong to other countries, and are sent there. Many come from the Emigrant Hospital. All immigrants who become insane before they are five years in the country are taken to the Emigrant Hospital, and when the term of five years has expired they are sent here. In this way the city is caring for many lunatics from Europe. In the Women's Asylum, on Blackwell's Island, there are between fourteen hundred and fifteen hundred patients.

A NEW DISINFECTANT.—A cheap and useful disinfectant is a solution of chloride of lead. It is inodorous, effective, and its cost very small. It may be prepared as follows: Take half a drachm of nitrate of lead and dissolve in a pint or more of boiling water. Dissolve two drachms of common salt in a pail or bucket of water, pour the two solutions together, and allow the sediment to subside. The clear supernatant fluid will be a saturated solution of chloride of lead. A cloth dipped in a solution of chloride of lead and hung up in a room will sweeten a fetid atmosphere instantaneously, or the solution thrown down a sink, water-closet, or drain, or over a heap of refuse, will produce a like result.

TREATMENT OF SUMMER CATARRH AND HAY FEVER.—Dr. John C. Thorowgood (*Lancet*) gives some useful hints on this subject. He first enumerates the usual remedies used as inhalants for relieving congestion and destroying the pollen-granules. These may answer when the attacks are light. But when the congestion and catarrh have extended down to the bronchi, and a true hay-asthma is produced, there are few remedies that surpass arsenic. This may be employed by vapor or by mouth. Nitrated paper cigarettes, each cigarette containing gr. ¼ of arseniate of soda, have proved very satisfactory. Where arsenic fails alone, the following will often succeed:

℞. Liquor potas. arsenit..... ♏. ij.
Potas. iodid..... gr. ij.
Liquor ammon..... ♏. v.
Aqua..... ʒ j.

M.—This to be taken three times a day.

Tincture of nux vomica and citrate of caffein are also remedies that are very often useful.

AN ANÆSTHETIC CAR.—A correspondent of the *British Medical Journal* gives the following description of Bert's anæsthetic car for giving nitrous oxide and compressed air. "I was at the St. Louis Hospital one morning; the car was there, and some operations were to be done in it. We—the patient, doctor, and his students—went into the car; the door, air-tight, was closed, and air forced into the car; in a few minutes my ears began to feel strange, and I was told to swallow, yawn, and blow my nose, which I did every few minutes, and so made the pressure equal on both sides of the drums of my ears. The patient laid himself down on the operating-table, and the anæsthetic agent was given him. He took it very quietly, did not struggle, and was soon insensible. Whilst he was unconscious, an epithelioma was removed from his lower lip; after the wound was sewn up, the compressed air was allowed to escape; the patient got up from the table, walked out of the car, and lay down on the grass; he complained of no headache nor nausea, but said he felt just as usual. We also were glad to escape from the car, on account of the heat, which was very intense. During the operation, all the assistants and the surgeons pulled off their coats and waistcoats, and yet they perspired very freely. The car is on wheels, and is carried about from hospital to hospital; the hospitals being under Government, the car is a public one, and is taken all over Paris."

THE AMBULANCE SYSTEM OF NEW YORK, having been commended as a model to Paris, is now being held up before the Londoners. Dr. B. Howard describes it fully in the *British Medical Journal*, and advocates its introduction by English municipal governments.

HOMES FOR MENTAL CONVALESCENTS.—A very excellent project has been started in London, under the auspices of Dr. Andrew Clark and others. It consists in the attempt to provide a home for patients just discharged from insane asylums. It is urged that many cures might be completed and confirmed in this way.

THE VALUE SET ON MEDICAL SERVICES.—The *Lancet* states that a club in Norwich pays its medical men six shillings a year ($1.50) for their services, which is at the rate of about two-pence a visit. This is even worse than in Richmond, Va., where, according to the *Southern Clinic*, physicians are paid seven cents by the city for vaccinating a child, which includes a visit and vaccinating, taking down the name of the patient, and a lot of other information; also a second visit to see what the results are, etc., all to be carefully reported in writing, and all for *seven cents*.

HONORS TO MEDICAL MEN.—Mr. William MacCormac has just been decorated by the King of Bavaria with the Ritterkreuz of the first-class—a military order of merit—for services in the war of 1870–71, a rather late recognition.

He has also been made Commander of the Order of Takodo, for services in the Turko-Servian war.

The Victoria Cross has been conferred upon Surgeon John Frederick M'Crea, for conspicuous bravery in the South African campaign.

DR. AGNEW ON THE COURSE AND LOCATION OF THE BULLET IN THE PRESIDENT'S BODY.—A long article appeared in the *Philadelphia Times* of last week, purporting to represent the views of Dr. Agnew on the President's wound. This brought out a card from Dr. Agnew, denying that he had ever given expression to the opinions published as his. He gives his views regarding the course of the bullet, and says:

"I am made to say that the precise location of the ball is either in the quadratus lumborum or the psoas magnus muscle. The precise location of the ball I have never professed to know. I did say that in my judgment the missile passed along the anterior face of the quadratus muscle, behind the kidney, and probably was lodged in the anterior part of the iliac fossa. I am represented as saying that the liver may have been bruised, but not lacerated, whereas I have invariably stated that, after studying the case, I was disposed to believe that the liver had

been lacerated, but not perforated; the laceration being produced by the rib at the time the latter was struck by the ball, a supposition which, if true, would account for a limited hemorrhage, answering to an area of percussion dulness present after the injury, and which has been slowly clearing up since."

In conclusion, Dr. Agnew says: "I cannot but feel that an omission was committed in not allowing me an opportunity to review the article in question before committing it to the wide circulation of the *Times*. It would at least have saved the necessity for two communications from one who, I assure you, does not seek public disputation. I may say, further, that the criticism to which the President's medical and surgical attendants have been subjected does not disturb their equanimity in the least. They have a responsible duty to perform. Nothing will be omitted, nothing knowingly committed, which in their judgment will endanger this valuable life, and, when the proper time arrives, they will submit the medical and surgical history of this remarkable injury to the profession, the only tribunal competent to pass an opinion on the conduct of the case."

THE COLOR-BLINDNESS LAW IN MASSACHUSETTS.—Dr. B. Joy Jeffreys writes us that the law regarding color blindness recently enacted by the Massachusetts Legislature, is not all that he worked for or wished, although it is better than nothing.

He also states that the law compels an examination for defective vision as well as for color-blindness.

LIFE INSURANCE AND OVERDOSING.—An important decision has recently been rendered by the Court of Appeals in the case of a Mr. Penfold, who died from an overdose of medicine. The medicine was prescribed by a physician in what was thought to be proper doses, and it was taken by Mr. Penfold in good faith; but it killed him. He was insured with a policy which said if he should "die by his own hand or act, voluntary or *otherwise*," the company should not be liable. The company refused to pay the policy; for, they said, he took the drug by his own hand, and that whether he did so voluntarily or not was unimportant. The decision was in favor of the right of the family to receive the money.

PROMOTING MEDICAL SCIENCE.—An Act amending an Act to promote medical science has passed the State Legislature and been signed by the Governor.

NEW HOSPITALS ON NORTH BROTHERS ISLAND.—Several members of the City Board of Health, the City Surveyor, and others, visited North Brothers Island last week for the purpose of locating the position of the new small-pox hospital. A spot on the northern portion of the island was finally selected. The building which it is proposed to erect on this site will be of brick, not over two stories high, and is intended exclusively for patients suffering from small-pox. It is also proposed to erect on the island hospitals for patients suffering from typhus fever, diphtheria, and other contagious diseases, but before this can be done portions of the ground will have to be graded and filled in, and a sea-wall built around the island. It is expected that the new small-pox hospital will be ready for occupancy by next spring.

LONGEVITY AMONG THE JEWS.—Dr. S. Gibbon, medical officer of health for the Holborn district, London, in his report for the last year, says that whatever may be the cause, there is no doubt that the Jew's life in London is, on the average, worth twice as many years as a Christian's. The Hebrews of the metropolis are notoriously exempt from tubercular and scrofula taint. It is very rare that one meets with pulmonary consumption among them. The medical officer of one of their large schools has remarked that their children do not die in anything like the same ratio as Gentile children; and in the district of Whitechapel the medical officer of Health has reported that on the north side of High Street, occupied by the Jews, the average death rate is twenty per thousand, while on the south side, occupied by English and Irish Gentiles, it is forty-three per thousand.

THE PLUMBERS AND PUBLIC HEALTH.—The plumbers are protesting against the enforcement of the registration act, because it compels them, they say, to submit plans to non-experts. The methods adopted by the Board of Health to carry out the law are as follows: Three forms have been drawn up. Two provide for the registration of master and journeyman plumbers and end with an agreement to comply with the rules established by the Board. The third blank is a notice of violation signed by the secretary of the board, with extracts from the new law. This will be sent to all plumbers doing faulty work in new buildings, when such fact is reported to the Board. It gives the plumber so many days to conform to the plan approved by the Board, and warns him of the penalty of non-compliance therewith.

THE NIGHT MEDICAL SERVICE.—END OF ITS FIRST YEAR.—The night medical service is now a year old. It seems to have been, on the whole, fairly successful, though there is much absurd talk in the daily press about its incalculable blessings. There have been, we are told, nearly 500 calls during the past twelve months. It is proposed now, by some enthusiasts, to establish a day medical service, paying a dollar fee to the physician called on.

HALF A BILLION CIGARETTES are smoked in this country annually. According to the revenue returns, only 9,000 of these are of first grade. The rest are, it is said, made of cheap paper, cheap tobacco, licorice, opium, etc.

Doubtless, many cigarette-smokers will protest against so severe a decision upon the quality of their weed. It is not impossible that cigarettes are registered as of low grade, in order to lighten the tax upon them. However, as this shows dishonesty in one direction, we can easily suspect it in another.

Cigarette-smoking is known to be locally more injurious than cigar or pipe-smoking. As to the constitutional effects, there are, we believe, no positive data. There is only a general impression that cigarettes are bad, and this for the especial reason that the smoke is, as a rule, inhaled.

PROFESSOR HUXLEY has been proposed as candidate for the position of Linacre Professor of Physiology at Oxford. No one could fill the position better. But it is objected that the distinguished naturalist already holds four salaried positions which bring him in five or six thousand dollars per annum, and the duties of which, presumably, might occupy his time.

OF ROYAL EXTRACTION.—Great has been the circumstances that surrounded the recent extraction of a troublesome tooth that belonged to the Shah of

Persia. His entire court was present to witness the awful spectacle, and during the same day he received no fewer than 3,000 ducats as presents of congratulation. It was a European dentist who performed the successful operation, and his grateful Majesty rewarded his skill with an even one hundred of the ducats.

Fresh Air for the Children.—The Floating Hospital of St. John's Guild is taking about a thousand children upon the river and bay three times a week.

The Seaside Retreat for children at Bath, L. I., which opened June 20th, has had over two hundred occupants ever since. Each child is allowed to stay a week.

The Sleeping "Hungarian," an account of whom was given in the Record some time ago by Dr. Beard, awakened on July 31st. He had been entirely unconscious for most of the time for one hundred and sixty-nine days. He has related his story, and it appears that he is not a Hungarian but a Pole. He had been out of work, and had not had enough to eat for several days. He said also that a short time before becoming unconscious a woman had given him an enormous dose of red pepper; he attributed his sleep in part to that. He remembered nothing of what had happened to him during his sleep. The case seems, as was asserted by Dr. Beard, to be one of trance-coma.

The *Ohio Medical Journal* is the title of the successor to the *Ohio Medical Recorder*, now defunct. The *Journal* is the organ of the State Medical Society. Its editor-in-chief is Dr. J. F. Baldwin. Dr. Baldwin is a spicy and able writer; we are glad that the new field before him is so promising.

How President Garfield's Room is Cooled.—The apparatus selected to cool the President's room is one devised by Mr. Jennings, of Baltimore. It consists of a cast-iron chamber, about ten feet long and three feet wide and three high, filled with vertical iron frames covered with cotton terry or Turkish toweling. These screens are placed half an inch apart, and represent some three thousand feet of cooling surface. Immediately over these vertical screens is placed a coil of inch iron pipe, the lower side of which is filled with fine perforations. Into a galvanized iron tank, holding one hundred gallons of water, is put finely granulated or shaved ice. This water is sprayed upon the sheets in the lower tank constantly. In each end of the iron chamber are openings thirteen inches square. To the outer end of this chamber is a pipe connecting with an outdoor air-conductor. To the opposite end is connected a similar pipe leading into an ice chamber at its top, and from the bottom of the same a pipe leads to a small exhaust fan, and from the fan the now cold and dry air is forced direct into the President's room through a flue some twenty feet in length. Air received at 99° temperature is supplied at the rate of 22,000 cubic feet per hour at the register in the President's room at 54°, and with the windows and doors open the temperature at the President's bed (twenty-five feet away) is maintained steadily at 75° day and night.

Growth and Weight of Children.—Some interesting studies with reference to the health and growth of children have been made by Dr. Boulton, of the Samaritan Hospital, London; instead of taking the average of a large number of children measured once, he adopted the plan of measuring a number of children of normal growth, brought up under average circumstances, many times, thus ascertaining their rate of increase. By this means, the annual rate of growth was found to vary between two and three inches for each child per year. Dr. Boulton believes that when a child varies more than a quarter of an inch annually, or when the increase of weight does not correspond with the weight within a margin of safety—put at seven pounds—then it is safe to conclude the child's diet is not good, or possibly some disease is lurking in his system. The curious fact appears that loss of weight always precedes the development of consumption.

Skull Measurements.—Professor Flower has published some further results of his researches with reference to the human skull. He states that the largest normal skull he has ever measured was as much as 2,075 cubic centimetres; the smallest, 960 cubic centimetres, this belonging to one of those peculiar people in the centre of Ceylon who are now nearly extinct. The largest average capacity of any human head he has measured is that of a race of long flat-headed people on the West Coast of Africa. The Laplanders and Esquimaux, though a very small people, have very large skulls, the latter giving an average measurement of 1,546; the English skull of the lower grades shows 1,542; the Japanese, 1,486; Chinese, 1,424; modern Italian, 1,475; ancient Egyptian, 1,464; Hindoos, 1,306.

Flatbush Hospital.—Dr. Harry O. Plympton, son of Prof. Plympton, of the Polytechnic Institute, has been appointed by the Commissioner of Charities and Correction, to the temporary Superintendency of the Flatbush Hospital, the office which Dr. D. L. Schenck recently resigned after seventeen years incumbency.

Lead-Poisoning from the use of Soda-water in Syphons.—It is often difficult to find out where lead could possibly have gotten into the system in cases that show marked evidences of chronic poisoning by that metal. It may be well to call to mind the case of a London physician, who traced the lead-poisoning in his own case to the use of soda-water in syphon bottles. The soda-water had taken up enough lead from the fittings of the bottles to poison him.

The Norristown Insane Asylum is to have a new wing for violent female patients. The asylum now holds 767 inmates.

Professor Haeckel has gone to Ceylon to pursue biological investigations.

Professor Pirogoff recently celebrated the fiftieth anniversary of his doctorate.

Well-water in Upper New York.—Dr. Waller has recently made a report to the City Board of Health on the character of the well-water in the Twenty-third and Twenty-fourth Wards. He states that "of twenty-six samples obtained from different sources, seven are very unsafe, six are unsafe, three are doubtful, and only ten can be looked upon as good. The samples all contained perceptible amounts of chlorides."

That Corner in Opium, of which there was much talk last winter, has fallen out, and opium is said to be selling now at from $4 to $4.25.

THE MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., Editor.

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## THE INTERNATIONAL MEDICAL CONGRESS.

In the present issue we continue our full report of the International Medical Congress. We venture to say, that never before has a larger body of representative medical men assembled, and never before has so much sound and practical scientific work been crowded into a smaller space. Over thirty-two hundred members registered their names, and there were altogether one hundred and nineteen meetings of sections held. At these meetings, four hundred and sixty-four written and three hundred and sixty spoken communications were made, all of which had a more or less practical bearing upon medical progress. Large as was the number of papers presented, and extensive as was the variety of subjects discussed, we can form no idea of their value from a mere numerical point of view. When it is considered that on each topic there was one to speak with authority, and give the results of special and original work, we can hardly overrate the importance of the meeting, or justly estimate its influence upon the medical world at large.

The general sessions were occupied for the most part by the addresses, each of which was a masterpiece in its way. The orators were fully alive to the necessities of the occasion, and gave evidence of profound study and extensive research. The full abstracts which we have given of these, will enable our readers to judge for themselves concerning their respective merits. The presentation of medals of honor to each of the orators was a becoming tribute to the value of the services rendered by these gentlemen, and is a custom worthy of continuance.

The work in the sections was carried on with much system, and was, on the whole, of a very practical character. As had been anticipated, there was considerable confusion of tongues in some of the discussions, as each member was privileged to choose, out of the three official languages, the one with which he was most conversant. But, under the circumstances, it is difficult to see how this confusion could have been avoided.

Doubtless much was lost to such as did not understand the language of the speaker, and thus there was a want of that general appreciation of the value of the discussions on the part of the majority present which, to say the least, was to be deplored. Speaking on this subject, our esteemed contemporary, the *Dublin Medical Press and Circular*, rather humorously remarks: "It was, however, essential to permit freedom of choice in this respect to all, and, in spite of the curious result produced on those who patiently gazed in irresponsive wonder at first one and then another unintelligible expositor of foreign science and practice, it is impossible to regret the consequences, now that all is over.

"The student of the ludicrous might any day of the meeting have found in every section rich subject of amusement in the polyglot expression of interest successfully encouraged on the countenances of the respective presidents. The calm current of a debate would occasionally suffer from the occurrence of a little scene not to be disassociated from the circumstances; but, on the whole, matters worked smoothly along, with only occasional amusing *contretemps*."

The leading sections, those of medicine, surgery, obstetrics, and pathology, commanded the larger attendance, and the subjects discussed therein were correspondingly interesting and attractive. The doings of the surgical section were particularly remarkable for their bearing upon the subject of the treatment of disease. In this respect they were in striking contrast with other sections from which, perhaps more, in that line, might have been expected. In the Section on Medicine, for instance, there was an absence—almost complete—of papers bearing upon the treatment of disease, notwithstanding a special place had been retained in the programme for the discussion of that important subject. It is a noteworthy fact in this connection, that of the forty papers on the programme, no fewer than one-third dealt with diseases of the nervous system.

The sections on specialties were becomingly active, and especially was this the case with those on ophthalmology and laryngology.

The opportunities for the clinical demonstration of disease were not wanting, and during the week numerous interesting cases were exhibited in the museum. Dr. Duckworth showed a group of well-marked cases of true gout with uratic deposits, and Mr. Hutchinson, on the same day, showed several examples of the same disease and rheumatic arthritis, separately and in association. Messrs. Macnamara, Page, and Treves exhibited cases of joint-disease in tabes dorsalis. Mr. Page's case was

remarkable, for the joint-affection (which involved the foot) was present together with the Argyll-Robertson symptom and absence of knee-jerk, but without any ataxy. The patient had had severe pains in the limbs, and vomiting some time previously. Dr. Ord showed a number of cases illustrating myxœdema, in various stages of progress. Dr. Barlow exhibited a case of aphasia, with right brachial monoplegia, in a boy, the subject of hereditary syphilis; Dr. Sturge some cases of muscular atrophy; and Mr. Hutchinson two cases in which rupture of the brachial plexus was diagnosed. The appreciation which was shown for these exhibitions more than paid the different gentlemen for the pains they had taken to secure their material.

The social element of the meeting was a particularly distinguishing feature. A glance at the list of entertainments will convince any one that the conscientious respondent must have been sorely burdened by the kind intentions of his host. But everything was expected to be done on a large scale, and our British brethren would not have been true to their national instincts if they had neglected anything in that part of the programme.

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PRESIDENT GARFIELD.

DESPITE the announcements that the condition of the President is hopeful and that he is making slight gains daily, it is quite evident that his chances for ultimate recovery are very poor indeed. The medical bulletins are worded with extreme caution, and on their face are calculated to give as little satisfaction to the public as is possible under the circumstances. With a laudable desire to inspire the greatest amount of hope in the favorable issue of the case, the surgeons in charge appear to be struggling against heavy odds. From a surgical point of view, the bulletins give no idea of the actual condition of the patient aside from the bare statements regarding the condition of the patient's pulse, respiration, and temperature, and the stereotyped assurances that there is a slight improvement since the previous note. In the aggregate this should mean a great deal, but that it does not is quite plain, when we strive to reconcile the statements of daily gain with a progressively weakened condition. Since our last report the irritability of the stomach has been in a measure controlled, but, as shown by the vomiting of Sunday last, this organ is liable at any moment to magnify itself into a serious complication. We can hardly expect otherwise, considering the extreme weakness of the patient and his greatly lowered power of vitality. The appearance of the parotid swelling, although serious enough in itself, is doubly so as indicating a generally depraved state of the blood, and a dangerous falling off of recuperative power. It does not seem likely, from all accounts, that the gland will suppurate; and the fear of abscess is apparently ill-founded. Nor is it strange that the swelling and induration show a tendency to remain stationary. This is what might be expected, considering the cause of the trouble and the depraved systemic condition which it occasions. As a local difficulty it is of no significance, except in so far as it gives rise to great personal discomfort by the mechanical obstruction to mastication, and by the annoying collection of viscid mucus in the fauces. Indirectly these conditions must affect the appetite, and in so far their existence is to be deplored, but the real cause for alarm is the progressive emaciation and slowly increasing weakness of the patient.

The wound is certainly not as well as it might be, considering the length of time that has elapsed since the receipt of the original injury. Under ordinary circumstances we should have expected it to have healed long ago. To be progressing favorably for so long a period, and with such a free and constant discharge of laudable pus, it is a matter of some surprise to learn that the track of the ball is still clear for a distance of twelve and one-half inches from the surface of the last incision. This would seem to indicate that the ball, wherever it may be, is not encysted, and is probably keeping up a deep-seated irritation. The length of the sinus is a matter for some concern, in view of the possible arrest of the discharge in any part of its course, and the consequent disastrous result upon the patient. These and other conditions tell against the chances of the sufferer in such a direct manner that his case becomes exceedingly critical, and the outlook quite unpromising. During the past week the pulse has ranged from 98 to 108, and the temperature from 88.3° F., to 99.4° F. Neither of these figures are high, but their steady persistence for several weeks explains the present alarming weakness of the patient, and their continuance day by day must diminish proportionately his chances for recovery.

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A NEW DISCOVERY IN OBSTETRICS.—Dr. G. F. Laubach, of Papillon, Nebraska, sends us the following: "'Prescribing Extraordinary,' in *New Remedies* for August, reminds me of an obstetrical case to which I was called while in Minnesota, where the midwife (?) 'got stuck.' It was a case of twins, the first of which the midwife delivered dead, and failing to secure the second one, I was sent for, but upon my arrival she had the other one delivered, also dead. She called me to one side and showed me the fœtus, and turning it on its stomach, explained how she had proceeded. 'You see, the little thing got crosswise, with the back down, and I could not do anything, as I had no instruments; but the while they sent for you, the woman suffered so much that I asked for a pair of blacksmith's pinchers and grabbed the little thing by the spine and just pulled it out. It hurt the woman a good deal, but she feels better now. See where the pinchers grabbed the little thing, but it was dead, so it makes no difference.'

"Sure enough, right in the lumbar regions, she applied the 'forceps,' forced a locking, and a new discovery was made in obstetrics."

# International Medical Congress.

*Held in London, England, August 3 to 9, 1881.*

(Special Report for THE MEDICAL RECORD.)

## GENERAL SESSION.

SECOND DAY—THURSDAY, AUGUST 4TH.

### ADDRESS ON SCEPTICISM IN MEDICINE.

THE untimely death of Dr. Maurice Raynaud, caused the reading of his address to fall upon his friend Dr. Féréol. After a fitting tribute to the deceased, he proceeded with the address on "Scepticism in Medicine."

The author, Dr. Maurice Raynaud, did not propose to give the history of medical scepticism, for there had been in all ages, and apparently there always would be, sceptics. Scepticism was one of the attributes of the human mind, just as extreme credulity was another. In fact the preference was usually given to the former, but they both worked hand in hand toward the truth. In regard to scepticism in medicine, unfortunately it was the doctors who have set the bad example. The remark has often been made, "Never have philosophers, literary men, or poets, said so much against medical science as the doctors themselves." "Where could we find," continues the author, "for example, a judgment on therapeutics more cruel than this one? 'Incoherent assemblage of opinions, in themselves incoherent, it is, perhaps, of all physiological sciences that in which the oddities of the human mind are best depicted. I say that this is not a science suited to a methodical mind; it is an informal assemblage of inexact ideas, of observations which are often childish, of illusory means, of formulæ as curiously conceived as they are fastidiously arranged. It is said that the practice of medicine is repulsive; I go further, and say that, under certain conditions, it is not the practice of a reasonable man as its principles are carried out in the greater part of our materia medica.' Who expresses himself thus, gentlemen? No ordinary man; it is Bichat, whom we all more or less acknowledge, and rightly, to be one of the promoters of modern science. And it is by hundreds that we could borrow from our principal leaders in science portraits no less flattering, without reckoning Broussais, who says boldly that up to his time medicine has only lauded men in a chimerical hope, and, taken for all in all, has been more harmful than useful to mankind. After that we cannot wonder if men outside our ranks judge us with some severity. But was not the first word written of medicine one of discouragement and of doubt? *Ars longa, vita brevis, experientia fallax, judicium difficile.* This is the first of all the aphorisms of Hippocrates, and M. Peisse asks ironically how, after having written it, Hippocrates could have the courage to write the second and the following ones. Certainly this grand utterance is an admirable lesson of modesty and prudence. But it has not been always understood in this sense; and the fact is that between scepticism and medicine there has always existed a certain natural affinity.

"What were the causes of medical scepticism? Scepticism flattered two of the deepest and not most honorable of the instincts of our nature, idleness and vanity; idleness, by dispensing with the need of seeking for truth, which always requires an effort to be discovered, and which, like the kingdom of God, suffered violence; vanity, by setting us up to criticise, to reckon the labors of others at a cheap rate, and to take to ourselves the gentle persuasion that we see through the common prejudices. There was something of that at the bottom of all scepticism. There was also, for a great number of the most conscientious and reflective minds, the inevitable discouragement caused by the clashing of contradictory opinions, the difficulty of arriving at one's own conviction, the uncertainty of therapeutic results. Was it not in medicine above all, that phenomena, the most complicated and most difficult to study, present themselves under quite different aspects, though they are the same in reality? Was it not most difficult in medicine to lay down fixed and invariable rules which were not encumbered by numerous exceptions.

"It was particularly when we had lived much in the past, when we had stirred up the dust of the libraries, and looking on that mountain of books and manuscripts, the accumulation of centuries, that we thought of the smallness of the result, of the little already known, of all there was yet to learn; it was then, above all, that we experienced that satiety, even disgust of books; and we understand Sydenham's conceit when, in reply to one of his friends, who asked him which was the best book to read, he said, 'Read "Don Quixote."' But Sydenham was not a sceptic; the book which he well knew how to read was the book of Nature. But the real and most potent cause of scepticism was that whilst medicine was a science, it was also a profession. The profession drew largely upon science; this latter would always, whatever it might accomplish, come short of what was required of it. Men, for the most part, trouble themselves little about the progress of science; but when they are ill they want to be cured, and that is what they come to us for. Now there was in every medical man conscious of the dignity of his art, a painful feeling arising from his powerlessness in the presence of so many ills. What a contrast there was between the number of services that men expect of us, and that which we are really able to render. Science was incomplete; it always will be; never mind, we must prescribe. That was a pernicious habit for the scientific mind to acquire. In all ages, certainly formerly more than at the present time, dogmatism had been the father of medical scepticism. The narrowness and tyranny of dogma led directly to doubt, above all when it did not rest on very firm foundations. Now, when we wish to investigate the old spirit, what do we find? A vague and incomplete notion of the permanence of the laws of Nature. In the midst of hypotheses, sometimes mystic, sometimes grossly materialistic, on the *primum movens*, we are always met with this idea, more or less formulated, but everywhere admitted, that life is a capricious, indiscernible force; that in all its manifestations the exception is nearly as frequent as the rule; and that it is impossible, in these changing matters, to affirm anything positively."

"Gentlemen," continues the author, "do you believe that this manner of looking at things is so remote from us? Do you not often hear it said that the words 'never' and 'always' should not be used in medicine, where 'everything happens?' Have you never heard 'fickle medicines'—'uncertain diseases'—spoken of? Is it not scepticism that meets you in these vulgar forms—scepticism which is not, perhaps, acknowledged, but is none the less dangerous? It is often said nowadays that there are no systems, that the time for them is past; that now

men only believe in facts, etc. That is a point on which I take the liberty of being somewhat sceptical. Have we had none of them in France since the commencement of the century: physiological medicine, organic medicine, and, in face of the latter, the vitalist, numerical medicine, exact medicine, positive medicine, and even positivist medicine, which is not quite the same thing?

"I could mention others if I wished. Besides this, pretension to strictness and accuracy does not belong specially to our own time; it has always been so. Do you believe our fathers imagined that they made science fanciful? They also proclaimed the sovereignty of experience and the omnipotence of facts. Meanwhile, I willingly admit that systems have now lost much of their importance—until they recover it; I admit that, for the moment, warned by the example of the past, we do not embrace all science in a single formula; that at least our conceptions being more modest, have, for that reason, a better chance of being true. You see I give to the present time all the credit that propriety demands. I only ask of it to be thoroughly willing to recognize the defects in its qualifications, and it is in these defects that I find some of the causes of modern medical scepticism. I shall allude, first of all, to ignorance. It would be more consistent with good feeling, and more correct, even to say the abuse of science. To-day science is so vast that we are obliged to fortify ourselves under penalty of remaining unproductive. From this arises—notably in our time—that some of the most eminent men in their specialty are absolutely ignorant of anything not pertaining to it.

"And as it is always easier to doubt than to study, there are adepts, ready made, for certain kinds of partial scepticisms, such as therapeutic scepticism, so much in vogue among men of the world. There are other ways of abusing science which also end in doubt. The dominant character of actual science is, as I said just now, the direct intervention of physiology in the things of pathology. At the same time, physiology is not medicine. Their field of study is not even quite identical. There are, it is true, the same tissues and organs; but they react differently according to whether the man is well or ill; and it belongs to illness alone to provoke certain kinds of reactions which, up to the present at least, we have not been able to produce by experiments. "Who would suspect, in looking at the brain,' Hippocrates said 'that wine disturbs its functions?' Would the most exact knowledge of the functions of the skin teach us anything of the nature of small-pox? However small the ties may be which unite physiology to medicine, the quantity of light that the one throws upon the other is still quite inadequate. And we must not be surprised if some of the greatest physiologists still regard medicine with absolute scepticism. Such, with us, was Magendie, to whom we should be very forgiving because he has given us Claude Bernard. Formerly, for example, the efficacy of bleeding in cases of cerebral hemorrhage was believed in: a theory was founded on it of the *rapture sanguin*, and of the derivation of bloodletting. But the discovery of miliary aneurisms brings this theory to the ground; and at the same time the lancet loses favor.

"However, gentlemen, we affirm boldly, that it is only superficial minds who are led by the conquests of pathological anatomy to discredit the ancients, and to the presumptuous conclusion that there is nothing to do in therapeutics. It is too easy to answer them. Is it not due to the progress of pathological anatomy that we have to-day proof of the curability of phthisis, and of the possible evolution toward cicatrization of the tuberculous follicle? Is it not something, too, to know when we are on the wrong road? We change it, at least, and that is a great benefit to the patient. But you would blame me if I spent more time on such an easy refutation.

"Thus far I have defined and described the malady of scepticism, and we have together sought out its principal causes. Is there a remedy for this evil? But I hear an objection: Is scepticism really an evil? Is it an enemy to be combated? Is it not rather one of the peculiarities of human nature with which, in our inability to triumph over it, we had better make terms? In such a question, gentlemen, we must have sincerity. Formerly I had an old master, rather sceptical himself, who was groaning in my presence one day about the impotence of our art, and he added, 'It would not do to say that to young men, for it would discourage them; they will become aware of it soon enough.' For myself, I never could understand this way of looking at things; the truth should be declared to all, young or old. If the result of so much human labor and watchings and sacrifices were nothing, it would still be our duty to say so. Wilful error, when kept to one's self, may screen itself under the name of illusion, but when it is taught to others it can but be called by one name—a lie.

"But, gentlemen, who will dare to say that we are in that condition? If I were to hazard here a like enormity, what protests I should call forth! Is not your presence here a striking and emphatic negation of a system which, in pathology, leads to ignorance, in therapeutics to inaction? Let us endeavor to find out means to resist this fatal tendency, and to strengthen one another in our beliefs. The remedy for scepticism, gentlemen, is, above all, to be found in science itself, in science each day better worked out, better understood, the incessant progress of which acts as the desired corrective to its mistakes, and brings to its *postulata* the looked-for response. Each advance in theory brings about, sooner or later, a change in practice, which often comes whence it was least expected. It is not enough to proclaim the merits of exact science; in every science there is something of certainty and uncertainty. It is not enough either to run down the systematic mind. Have not the most famous systematists been often the most forward to decry the systems of others? It is not enough even to build upon the reputed solid foundations of pathological anatomy. Long before our illustrious Bouillaud had chosen as his motto Bichat's phrase: 'What is observation if we do not know where the evil is?' Celsus had said: 'How shall we treat a diseased organ of which we literally know nothing?' What we want, above all, is to put into daily practice the truth which underlies the following axioms: 1st, the absolute constancy of the laws which regulate life; 2d, the strict subordination of phenomena to certain conditions which have to be determined.

"Claude Bernard has called this last law 'determinism'—rather a barbarous expression, perhaps, and all the more open to dispute, inasmuch as its author even did not always use it in the same sense. But if the word is open to dispute, the thing is not; it is not a system, it is the very essence of the scientific spirit. I need not show you the uses to which Claude Bernard has applied it in physiology, and it would take too long to detail to you those to which

it can be turned in pathology. Allow me to give you one or two examples. I will be very brief. Let us take locomotor ataxy. For many years this disease was confounded with the vague groups of paraplegias; nothing was known of it, either its nature or its cause: it was treated at a venture; some patients were healed who certainly were not ataxics. That is the first stage of the disease: it is the period of ignorance. Then comes a second stage—that of anatomo-pathology: the injury is discovered, and known to be incurable. That is the period of discouragement. Finally, the third stage. It is stated that a large portion of these cases of ataxy (I do not say all) are dependent on syphilis; if these cannot be radically cured, at least the disease may be arrested in its development. Virulent and infectious diseases furnish us with a still more striking example. When, in these latter days, the study of spontaneous generation led to the discovery of that world of infinitesimal organisms which seem to beset us everywhere, one may well ask how the human species, how animal life itself, can resist these myriads of invisible enemies ever ready to take advantage of the least failure of the organism to penetrate in its room? Laying hold of this idea, a great surgeon, and also a thinker—Lister—has introduced a new method, which diminishes and suppresses the chances of consecutive infection in the great operations, extends the limits of his art, and assures the almost infallible success of daring attempts from which surgeons recoiled but a short time ago. On the other side, a man of genius, whose name I am proud to mention, my illustrious friend Pasteur, resuming and reducing to system your great Jenner's work, succeeded, by the methodical attenuation of the virus, in inaugurating the prophylaxy of virulent diseases, and thus opened up to us new and indefinite horizons. In view of such results, gentlemen, what ground has scepticism to rest on? We might, indeed, have to guard ourselves from excessive enthusiasm if our admiration were not fully justified by the discoveries already made.

"This, gentlemen, is the most telling way in which to reply to sceptics. The movement is not to be baffled. it proves itself. Let us not forget in the meantime an axiom of ancient medicine, which has survived all the dogmatic revolutions, and which Hippocrates defined as the *vis medicatrix naturæ*. It has often been laughed at. For my own part, I believe in it as firmly as in the most incontestable experimental facts. The interpretations, indeed, that have been given of it are questionable; but if so many, and sometimes such poor attempts have been able to explain it, it is precisely because the fact obtrudes itself on the attention. Recently, again, at the Academy of Medicine, in Paris, I noticed, in a statement of Pasteur's, that our eminent compatriot, trying to regulate the progressive attenuation of his virus, took for criterion the resistance which the organism of the sheep opposed to it. One virus kills one sheep in fifty; another, one in a hundred; a third, fifty in a hundred, etc. What does that mean, gentlemen? This condition which M. Pasteur brought about—thoughtful observer that he is—this 'receptivity,'—what is it at bottom, if not that force of resistance which exists in every living being, differing according to the species, and also according to the individual?

"Is it not in the main the same thing as the *vis medicatrix naturæ?* Whatever we may say to it, it is one of the dominant facts of medical science. This force of vital resistance, this more or less receptivity of the disease, will be always the indispensable auxiliary of the doctor; and, for my own part, I would give up the exercise of my art if I were not sustained by this ally. The incomparable difficulty of our art is the necessity of apportioning a just share to this element in the cure of diseases, and of conciliating it, in the interpretation of morbid phenomena, with the two fundamental axioms that I have already admitted. The task is arduous; but difficult as it may appear, gentlemen, be assured that harmony will be established. Be that as it may, taking into account this great force of vital resistance, made clear by the light of etiology, pathological anatomy is no longer a meditation upon death, but the science of indications; a profound saying which has been bequeathed to us by ancient medical science, and which always corresponds to the highest realities of art.

"When certainty is obtained on these three points, gentlemen, science will be nearly perfected; even whilst it is not, we are not quite disarmed, for we have the right to appeal to empiricism and to tradition; who of us would be able to do without that? It gives us, for want of something better, a kind of certainty which is not without value, and which does not hinder us from seeking a superior certainty. The patrimony that each medical generation bequeaths to that which comes after is twofold, the one of an absolute, the other of a relative value, but neither to be disdained. It is thus that we have received from our ancestors opium, quinquina, nearly all our best medicines, which have done us good service, and will do us still more, before we definitely fix their mode of action; in like manner we in our turn leave to our descendants chloroform, chloral, phenic acid, the salicylates, pilocarpine, and many other substances, which it belongs to the future to appreciate and to explain their various uses. Thus are formed what Cabanis has called so appropriately, "the practical certainties" of medical science; thus we come to the kind of certainty peculiar to the clinician, which resembles, in many respects, moral certainty, and which, without attaining to scientific certainty, has no less its place and rank beside her. The limits assigned to me do not allow of my adding more to this already lengthy address. As a fitting close, allow me, gentlemen, to quote a passage, which is like a *résumé* and conclusion of my subject, from Claude Bernard. I could not do better than leave with you the impression of these simple and forcible words. 'The sceptic,' says our great physiologist in his 'Introduction à la Médecine Expérimentale,' 'is he who believes not in science, but in himself; he believes enough in himself to dare to disown science, and to affirm that it is not subject to fixed and determined laws. The doubter is the real *savant;* he only doubts himself and his own interpretations, but he believes in science; he admits, even in the experimental sciences, a criterion or an absolute scientific principle.'"

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THIRD DAY—FRIDAY, AUGUST 5TH.

ADDRESS ON MEDICAL LITERATURE BY JOHN S. BILLINGS, M.D., U.S.A.

After some introductory remarks, the speaker said: "It is usual to estimate that about one-thirtieth part of the whole mass of the world's literature belongs to medicine and its allied sciences. This corresponds very well to the results obtained from an examination of bibliographies and catalogues of the principal medical libraries. It appears from this

that our medical literature now forms a little over one hundred and twenty thousand volumes properly so-called, and about twice that number of pamphlets, and that this accumulation is now increasing at the rate of about one thousand five hundred volumes and two thousand five hundred pamphlets yearly.

"Let us consider the character of this

ANNUAL GROWTH

somewhat in detail, first giving some figures as the number of those who are producing it.

"There are at the present time, scattered over the earth, about one hundred and eighty thousand medical men, who, by a liberal construction of the phrase, may be said to be educated—that is, who have some kind of a diploma, and for whose edification this current medical literature is produced. Of this number about eleven thousand six hundred are producers of or contributors to this literature, being divided as follows: United States, 2,800; France and her colonies, 2,600; the German Empire and Austro-Hungary, 2,300; Great Britain and her colonies, 2,000; Italy, 600; Spain, 300; all others, 1,000. These figures should be considered in connection with the number of physicians in each country; but this I can only give approximately, as follows: United States, 65,000; Great Britain and her colonies, 35,000; Germany and Austro-Hungary, 32,000; France and her colonies, 26,000; Italy, 10,000; Spain, 5,000; all others, 17,000.

"It will be seen from these figures that the number of physicians who are writers is proportionately greatest in France and least in the United States. As regards France, this is largely due to the requirement of a printed thesis for graduation, which of itself adds between six and seven hundred annually to the number of writers.

"Excluding popular medicine, pathies, pharmacy, and dentistry, all of which were included in the figures for the annual product just given, we find that the contributions to medicine, properly so-called, form a little over one thousand volumes and one thousand six hundred pamphlets yearly.

"For 1879, Rupprecht's 'Bibliotheca' gives as the total number of new medical books, excluding pamphlets, periodicals, and transactions, 419, divided as follows, viz.: France, 187; Germany, 110; England, 43; Italy, 32; United States, 21; all others, 26. These figures are, however, too small, and especially so as regards Great Britain and the United States. The 'Index Medicus' for the same year shows by analysis that the total number of medical books and pamphlets, excluding periodicals and transactions, was 1,643, divided as follows: France, 541; Germany, 364; United States, 310; Great Britain, 182; all others, 246. This does not include the inaugural theses, of which 693 were published in France alone.

THE SPECIAL CHARACTERISTICS

of the literature of the present day are largely due to journals and transactions, and this is particularly true in medicine. Our periodicals contain the most recent observations, the most original matter, and are the truest representations of the living thought of the day, and of the tastes and wants of the great mass of the medical profession, a large part of whom, in fact, read very little else. They form about one-half of the current medical literature, and in the year 1879 amounted to 650 volumes, of which the United States produced 156; Germany, 129; France, 122; Great Britain, 154; Italy, 65; and Spain, 24. This is exclusive of journals of pharmacy, dentistry, etc., and of journals devoted to medical sects and isms.

"The total numbers of volumes of medical journals and transactions of all kinds was, for the year 1879, 850, and for 1880, 864. The figures for 1880 are too small, but the real increase is slight. During the year 1879, the total number of original articles in medical journals and transactions which were thought worth noting for the 'Index Medicus' was a little over 20,000. Of these there appeared in American periodicals, 4,781; in French, 4,608; in German, 4,027; in English, 3,592; in Italian, 1,210; in Spanish, 703; in all others, 1,248. The figures for 1880 are about the same. It will be seen that at present more of this class of literature appears in the English language than in any other, and that the number of journal contributions is greatest in the United States. The actual bulk of periodical literature is, however, largest in Germany, owing to the greater average length of the articles. With regard to the mode of publication, I will only say that in all countries, except Spain, the greater number of medical periodicals are monthly, while in Spain they are semi-monthly. It is this periodical literature which, more than anything else, makes medicine cosmopolitan, and although as regards new discoveries or methods of treatment it is still somewhat farther from London or Berlin or Paris to New York than it is from New York to either of these places, the discrepancy is gradually becoming less.

"Many of the medical journals are very short-lived, but the total number is increasing. In 1879, twenty-three such journals ceased, but sixty new ones appeared, and in 1880 there were twenty-four deaths and seventy-eight births in this department of literature Over one-third of this fluctuation occurs in the United States alone, France being next in the scale, Spain third, and Italy fourth, while Great Britain is the most stable of all.

"This merely quantitative classification gives of course no idea as to the

CHARACTER OF THE PRODUCT.

"Let us now consider it by subjects. During 1879 there were published 167 books and pamphlets and 1,543 articles relating to anatomy, physiology, and pathology—that is, to the biological or scientific side of medicine. Dividing this again by nations, we find that Germany produced a majority of the whole, France being second. The proportionate production by nations of this class of literature is perhaps better shown by an analysis of the bibliography of physiological literature for the year 1879, as published by the *Journal of Physiology*. This shows 59 treatises and 500 articles in German; 17 treatises and 227 articles in French; 5 treatises and 77 articles from Great Britain; 8 treatises and 41 articles from Italy; and 2 treatises and 24 articles from the United States. The number of authors for this product was: German, 373; French, 119; English, 59; Italian, 39; United States, 19; all others, 41. For the year 1880 the same journal reports 62 treatises and 452 articles from Germany; 23 treatises and 216 articles from France; 12 treatises and 76 articles from Great Britain; 4 treatises and 51 articles from Italy; 6 treatises and 25 articles from the United States; and 10 treatises and 31 articles from all other countries.

"When we return to the literature of the art, or practical side of the profession, the figures are decidedly different. We find over 1,200 treatises and

18,000 journal articles which come under this head, and the order of precedence of countries as to quantity is: France, United States, Germany, Great Britain, Italy, and Spain. A marked increase has occurred in the literature of hygiene during the last two years, and this especially in England, France, Germany, and the United States. The literature of diseases of the nervous system, of ophthalmology, otology, dermatology and gynæcology is also increasing more rapidly than that of the more general branches."

The speaker then referred to the increased attention paid to the more scientific study of medicine everywhere.

While admitting the priority of Germany as regards scientific medicine, he said: "Such priority, however, is not the case with regard to therapeutics, either external or internal—in regard to which I presume that the physicians of each nation are satisfied as to their own pre-eminence. At all events it is true, that for the treatment of the common diseases a physician can obtain his most valuable instruction in his own country, among those whom he is to treat. Just as each individual is in some respects peculiar and unique, so that even the arrangement of the minute ridges and furrows at the end of his forefinger differs from that of all other forefingers, and is sufficient to identify him; and as the members of certain families require special care to guard against hemorrhage, or insanity, or phthisis, so it is with nations and races. The experienced military surgeon knows this well, and in the United States, which is now the great mixing ground, illustrations of race peculiarities are familiar to every practitioner."

Speaking of the alleged tendency of present scientific work toward utilitarianism, he said that "this tendency was by no means universal, for science was becoming fashionable. And we see such individuals as the languid scientific swell, who thinks it bad style to be practical, who takes no interest in anything but pure science, and makes it a point to refrain from any investigations which might lead to useful results lest he might be confounded with mere inventors, exists and has his admirers. We have such in medicine, and their number will increase."

The speaker then referred to the increased fondness for book-collecting and library-making. He also discussed the future of medical literature and medical libraries. He thought that the present rate of increase would not continue. It had, indeed, already become smaller in some places, especially in Western Europe.

To those who might be discouraged at the immense bibliography of every medical subject, he would say that there were few books of any value older than the present century. Those were the works of Hippocrates, Galen, Harvey, Hunter, Morgagni, and Sydenham.

Speaking of the Index Catalogue of the library of the Surgeon-General's office, he stated that at least one-half of the references were of no value so long as the other half is accessible.

An important suggestion was made in regard to instruction in the history and literature of medicine in medical colleges. Such instruction forms no part of the course in English or American schools, nor would the writer be disposed to recommend its introduction into the curriculum if it were to be based on French and German models; but it does seem possible to take a step in this direction which would be of great value, not only as a means of general culture, as teaching students how to think, but from a purely practical point of view, in teaching them how to use the implements of their profession to the best advantage—for books are properly compared to tools, of which the index is the handle. Such instruction should be given in a library, just as chemistry should be taught in a laboratory.

The speaker made an appeal in behalf of the bibliographer, which deserves attention.

"The editors of Transactions of Societies, whether these are sent to journals, or published in separate form, often commit numerous sins of omission in the matter of titles. The rule should be that every article which is worth printing is worth a distinct title, which should be as concise as a telegram, and be printed in a special type. If the author does not furnish such a title it is the editor's business to make it; and he should not be satisfied with such headings as 'Clinical Cases,' 'Difficult Labor,' 'A Remarkable Tumor,' 'Case of Wound, with Remarks.' The four rules for the preparation of an article for a journal will then be: 1st, have something to say; 2d, say it; 3d, stop as soon as you have said it; 4th, give the paper a proper title."

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### Fifth Day—Monday, August 8th.

#### Address on the Germ Theory by Professor Pasteur.

After a few introductory remarks, acknowledging the honor of the invitation to address the Congress, the distinguished professor said: "I should be guilty of ingratitude and of false modesty if I did not accept the welcome I have received among you and in English society as a mark of homage paid to my labors during the past five-and-twenty years upon the nature of ferments—their life and their nutrition, their preparation in a pure state by the introduction of organisms (*ensemencement*) under natural and artificial conditions—labors which have established the principles and the methods of microbie (microbism), if the expression is allowable. Your cordial welcome has revived within me the lively feeling of satisfaction I experienced when your great surgeon Lister declared that my publication in 1857 on milk fermentation had inspired him with his first ideas on his valuable surgical method. You have reawakened the pleasure I felt when our eminent physician, Dr. Davaine, declared that his labors upon charbon (splenic fever or malignant pustule) had been suggested by my studies on butyric fermentation and the vibrion which is characteristic of it. Gentlemen, I am happy to be able to thank you by bringing to your notice a new advance in the study of microbie as applied to the prevention of transmissible diseases—diseases which for the most part are fraught with terrible consequences, both for man and domestic animals.

"The subject of my communication is vaccination in relation to chicken cholera and splenic fever, and a statement of the method by which we have arrived at these results—a method the fruitfulness of which inspires me with boundless anticipations. Before discussing the question of splenic fever vaccine, which is the most important, permit me to recall the results of my investigations of chicken cholera. It is through this inquiry that new and highly important principles have been introduced into science concerning the virus or contagious quality of transmissible diseases. More than once in what I am about to say I shall employ the expression virus-cul-

ture, as formerly, in my investigations on fermentation, I used the expressions, the culture of milk ferment, the culture of the butyric vibrion, etc. Let us take, then, a fowl which is about to die of chicken cholera, and let us dip the end of a delicate glass rod in the blood of the fowl with the usual precautions, upon which I need not here dwell. Let us then touch with this charged point some *bouillon de poule*, very clear, but first of all rendered sterile under a temperature of about 115° centigrade, and under conditions in which neither the outer air nor the vases employed can introduce exterior germs—those germs which are in the air, or on the surface of all objects. In a short time, if the little culture vase is placed in a temperature of 25° to 35°, you will see the liquid become turbid and full of tiny microbes, shaped like the figure 8, but often so small that under a high magnifying power they appear like points. Take from this vase a drop as small as you please, no more than can be carried on the point of a glass rod as sharp as a needle, and touch with this point a fresh quantity of sterilized *bouillon de poule* placed in a second vase, and the same phenomenon is produced. You deal in the same way with a third culture vase, with a fourth, and so on to a hundred, or even a thousand, and invariably within a few hours the culture liquid becomes turbid and filled with the same minute organisms.

"At the end of two or three days' exposure to a temperature of about 30° C. the thickness of the liquid disappears, and a sediment is formed at the bottom of the vase. This signifies that the development of the minute organism has ceased—in other words, all the little points which caused the turbid appearance of the liquid have fallen to the bottom of the vase, and things will remain in this condition for a longer or shorter time, for months even, without even the liquid or the deposit undergoing any visible modification, inasmuch as we have taken care to exclude the germs of the atmosphere. A little stopper of cotton sifts the air which enters or issues from the vase through changes of temperature. Let us take one of our series of culture preparations—the hundredth or the thousandth, for instance—and compare it in respect to its virulence with the blood of a fowl which has died of cholera; in other words, let us inoculate under the skin ten fowls, for instance, each separately with a tiny drop of infectious blood, and ten others with a similar quantity of the liquid in which the deposit has first been shaken up. Strange to say, the latter ten fowls will die as quickly and with the same symptoms as the former ten; the blood of all will be found to contain after death the same minute infectious organisms. This equality, so to speak, in the virulence both of the culture preparation and of the blood is due to an apparently futile circumstance. I have made a hundred culture preparations—at least, I have understood that this was done—without leaving any considerable interval between the impregnations. Well, here we have the cause of the equality in the virulence.

"Let us now repeat exactly our successive cultures with this single difference, that we pass from one culture, to that which follows it—from the hundredth to, say, the hundred and first, at intervals of a fortnight, a month, two months, three months, or ten months. If, now, we compare the virulence of the successive cultures, a great change will be observed. It will be readily seen from an inoculation of a series of ten fowls that the virulence of one culture differs from that of the blood and from that of a preceding culture when a sufficiently long interval elapses between the impregnation of one culture with the microbe of the preceding. More than that, we may recognize by this mode of observation that it is possible to prepare cultures of varying degrees of virulence. One preparation will kill eight fowls out of ten, another five out of ten, another one out of ten, another none at all, although the microbe may still be cultivated. In fact, what is no less strange, if you take each of these cultures of attenuated virulence as a point of departure in the preparation of successive cultures and without appreciable interval in the impregnation, the whole series of these cultures will reproduce the attenuated virulence of that which has served as the starting point. Similarly, where the virulence is null it produces no effect. How, then, it may be asked, are the effects of these attenuating virulences revealed in the fowls? They are revealed by a local disorder, by a morbid modification more or less profound in a muscle, if it is a muscle which has been inoculated with the virus. The muscle is filled with microbes which are easily recognized, because the attenuated microbes have almost the bulk, the form, and the appearance of the most virulent microbes.

"But why is not the local disorder followed by death? For the moment let us answer by a statement of facts. They are these: the local disorder ceases of itself more or less speedily, the microbe is absorbed and digested, if one may say so, and little by little the muscle regains its normal condition. Then the disease has disappeared. When we inoculate with the microbe, the virulence of which is null, there is not even local disorder, the *nature medicatrix* carries it off at once, and here, indeed, we see the influence of the resistance of life, since this microbe, the virulence of which is null, multiplies itself. A little farther, and we touch the principle of vaccination. When the fowls have been rendered sufficiently ill by the attenuated virus which the vital resistance has arrested in its development, they will, when inoculated with virulent virus, suffer no evil effects, or only effects of a passing character. In fact, they no longer die from the mortal virus, and for a time sufficiently long, which in some cases may exceed a year, chicken cholera cannot touch them, especially under the ordinary conditions of contagion which exist in fowl-houses. At this critical point of our manipulation—that is to say, in this interval of time which we have placed between two cultures, and which causes the attenuation—what occurs? I shall show you that in this interval the agent which intervenes is the oxygen of the air. Nothing more easily admits of proof. Let us produce a culture in a tube containing very little air, and close this tube with an enameller's lamp. The microbe in developing itself, will speedily take all the oxygen of the tube and of the liquid, after which it will be quite free from contact with oxygen. In this case it does not appear that the microbe becomes appreciably attenuated, even after a great lapse of time. The oxygen of the air, then, would seem to be a possible modifying agent of the virulence of the microbe of chicken cholera—that is to say, it may modify more or less the facility of its development in the body of animals. May we not be here in presence of a general law applicable to all kinds of virus? What benefits may not be the result? We may hope to discover in this way the vaccine of all virulent diseases; and what is more natural than to begin our investigation of the vaccine of what we

in French call charbon, what you in England call splenic fever, and what in Russia is known as the Siberian pest, and in Germany as the Milzbrand.

"In this new investigation I have had the assistance of two devoted young *savants*—MM. Chamberland and Roux. At the outset we were met by a difficulty. Among the inferior organisms, all do not resolve themselves into those corpuscle germs which I was the first to point out as one of the forms of their possible development. Many infectious microbes do not resolve themselves in their cultures into corpuscle germs. Such is equally the case with beer yeast, which we do not see develop itself usually in breweries, for instance, except by a sort of scissiparity. One cell makes two or more, which form themselves in wreaths; the cells become detached, and the process recommences. In these cells real germs are not usually seen. The microbe of chicken-cholera and many others behave in this way, so much so that the cultures of this microbe, although they may last for months without losing their power of fresh cultivation, perish finally like beer yeast which has exhausted all its aliments. The anthracoid microbe in artificial cultures behaves very differently. In the blood of animals, as in cultures, it is found in translucid filaments more or less segmented. This blood or these cultures freely exposed to air, instead of continuing according to the first mode of generation, show at the end of forty-eight hours corpuscle germs distributed in series more or less regular along the filaments. All around these corpuscles matter is absorbed, as I have represented it formerly in one of the plates of my work on the diseases of silkworms. Little by little all connection between them disappears, and presently they are reduced to nothing more than germ dust.

"If you make these corpuscles germinate, the new culture reproduces the virulence peculiar to the thready form which has produced these corpuscles, and this result is seen even after a long exposure of these germs to contact with air. Recently we discovered them in pits in which animals dead of splenic fever had been buried for twelve years, and their culture was as virulent as that from the blood of an animal recently dead. Here I regret extremely to be obliged to shorten my remarks. I should have had much pleasure in demonstrating that the anthracoid germs in the earth of pits in which animals have been buried are brought to the surface by earthworms, and that in this fact we may find the whole etiology of disease, inasmuch as the animals swallow these germs with their food. A great difficulty presents itself when we attempt to apply our method of attenuation by the oxygen of the air to the anthracoid microbes. The virulence establishing itself very quickly, often after twenty-four hours in an anthracoid germ which escapes the action of the air, it was impossible to think of discovering the vaccine of splenic fever in the conditions which had yielded that of chicken cholera. But was there, after all, reason to be discouraged? Certainly not; in fact, if you observe closely, you will find that there is no real difference between the mode of the generation of the anthracoid germ by scission and that of chicken cholera. We had therefore reason to hope that we might overcome the difficulty which stopped us by endeavoring to prevent the anthracoid microbe from producing corpuscle germs, and to keep it in this condition in contact with oxygen for days, and weeks, and months. The experiment fortunately succeeded.

"In the ineffective *(neutre) bouillon de poule* the anthracoid microbe is no longer cultivable at 45° C. Its culture, however, is easy at 42° or 43°, but in these conditions the microbe yields no spores. Consequently it is possible to maintain in contact with the pure air at 42° or 43° a *mycélienne* culture of bacteria entirely free of germs. Then appear the very remarkable results which follow. In a month or six weeks the culture dies — that is to say, if one impregnates with it fresh *bouillon*, the latter is completely sterile. Up till that time life exists in the vase exposed to air and heat. If we examine the virulence of the culture at the end of two days, four days, six days, eight days, etc., it will be found that long before the death of the culture the microbe has lost all virulence, although still cultivable. Before this period it is found that the culture presents a series of attenuated virulences. Everything is similar to what happens in respect to the microbe in chicken cholera. Besides, each of these conditions of attenuated virulence may be reproduced by culture; in fact, since the charbon does not operate a second time *(ne récidive pas)*, each of our attenuated anthracoid microbes constitutes for the superior microbe a vaccine — that is to say, a virus capable of producing a milder disease. · Here, then, we have a method of preparing the vaccine of splenic fever. You will see presently the practical importance of this result, but what interests us more particularly is to observe that we have here a proof that we are in possession of a general method of preparing virus vaccine based upon the action of the oxygen and the air — that is to say, of a cosmic force existing everywhere on the surface of the globe.

"I regret to be unable, from want of time, to show you that all these attenuated forms of virus may very easily, by a physiological artifice, be made to recover their original maximum virulence. The method I have just explained of obtaining the vaccine of splenic fever was no sooner made known than it was very extensively employed to prevent the splenic affection. In France we lose every year, by splenic fever, animals of the value of twenty million francs. I was asked to give a public demonstration of the results already mentioned. This experiment I may relate in a few words. Fifty sheep were placed at my disposition, of which twenty-five were vaccinated. A fortnight afterward the fifty sheep were inoculated with the most virulent anthracoid microbe. The twenty-five vaccinated sheep resisted the infection; the twenty-five unvaccinated died of splenic fever within fifty hours. Since that time my energies have been taxed to meet the demands of farmers for supplies of this vaccine. In the space of fifteen days we have vaccinated in the departments surrounding Paris more than twenty thousand sheep, and a large number of cattle and horses. If I were not pressed for time I would bring to your notice two other kinds of virus attenuated by similar means. These experiments will be communicated by and by to the public. I cannot conclude, gentlemen, without expressing the great pleasure I feel at the thought that it is as a member of an international medical congress assembled in England that I make known the most recent results of vaccination upon a disease more terrible, perhaps, for domestic animals than small-pox is for man. I have given to vaccination an extension which science, I hope, will accept as a homage paid to the merit and to the immense services rendered by one of the greatest men of England, Jenner. What a pleasure for me to do honor to this immortal name in this noble and hospitable city of London!"

Sir James Paget remarked, that in thanking Professor Pasteur, as he did in the name of the Congress, for the address they had just heard, he was only expressing the sense of the whole world. Professor Pasteur had done for the lower animals what Jenner had already done for the human race, and it was not a little remarkable that while Jenner, in seeking to benefit mankind, had to fight against a vehement opposition, Professor Pasteur's investigations for the benefit of mere human property met with no opposition. (Cheers and laughter.) Probably as the result of these researches, human vaccination would be viewed with more favor in some quarters than it had hitherto been.

Professor Volkmann read a paper in German at the same meeting, on "Modern Surgery," in which he paid a tribute to Professor Lister as the discoverer of the antiseptic system, whereby the treatment of fractures and amputation of the limbs had been rendered very much safer than was previously the case.

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### Sixth Day—Tuesday, August 9th.

#### The connection of the biological sciences with medicine.—address by T. H. Huxley, ll.d.

After a general introduction to his subject, the learned orator remarked:

"The great man whose name is inseparably connected with the foundation of medicine, Hippocrates, certainly knew very little—indeed, practically nothing—of anatomy or physiology; and he would probably have been perplexed even to imagine the possibility of a connection between the zoölogical studies of his contemporary, Democritus, and medicine. Nevertheless, in so far as he and those who worked before and after him in the same spirit ascertained, as matters of experience, that a wound or a luxation, or a fever, presented such and such symptoms, and that the return of the patient to health was facilitated by such and such measures, they established laws of Nature and began the construction of the science of pathology. All true science begins with empiricism, though all true science is such exactly in so far as it strives to pass out of the empirical stage into that of the deduction of empirical from more general truths. Thus, it is not wonderful that the early physicians had little or nothing to do with the development of biological science; and, on the other hand, that the early biologists did not much concern themselves with medicine. There is nothing to show that the Asclepiads took any prominent share in the work of founding anatomy, physiology, zoology, and botany. Rather do these seem to have sprung from the early philosophers, who were essentially natural philosophers, animated by the characteristically Greek thirst for knowledge as such. Pythagoras, Alcmeon, Democritus, Diogenes of Apollonia, are all credited with anatomical and physiological investigation; and though Aristotle is said to have belonged to an Asclepiad family, and not improbably owed his taste for anatomical and zoölogical inquiries to the teachings of his father, the physician Nicomachus, the 'Historia Animalium,' and the treatise 'De Partibus Animalium,' are as free from any allusion to medicine as if they had issued from a modern biological laboratory.

"It may be added, that it is not easy to see in what way it could have benefited a physician of Alexander's time to know all that Aristotle knew on these subjects. His human anatomy was too rough to avail much in diagnosis, his physiology was too erroneous to supply data for pathological reasoning. But when the Alexandrian school, with Erasistratus and Herophilus at their head, turned to account the opportunities of studying human structure afforded to them by the Ptolemies, the value of the large amount of accurate knowledge thus obtained to the surgeon for his operations, and to the physician for his diagnosis of internal disorders, became obvious, and a connection was established between anatomy and medicine, which has ever become closer and closer. Since the revival of learning, surgery, medical diagnosis, and anatomy have gone hand in hand. Morgagni called his great work 'De Sedibus et Causis Morborum per Anatomen Indagatis,' and not only showed the way to search out the localities and the causes of disease by anatomy, but himself travelled wonderfully far upon the road. Bichat, discriminating the grosser constituents of the organs and parts of the body one from another, pointed out the direction which modern research must take; until at length histology, a science of yesterday, as it seems to many of us, has carried the work of Morgagni as far as the microscope can take us, and has extended the realm of pathological anatomy to the limits of the invisible world.

"Thanks to the intimate alliance of morphology with medicine, the natural history of disease has, at the present day, attained a high degree of perfection. Accurate regional anatomy has rendered practicable the exploration of the most hidden parts of the organism, and the determination during life of morbid changes in them; anatomical and histological post-mortem investigations have supplied physicians with a clear basis upon which to rest the classification of diseases, and with unerring tests of the accuracy or inaccuracy of their diagnosis. If men could be satisfied with pure knowledge, the extreme precision with which, in these days, a sufferer may be told what is happening, and what is likely to happen, even in the most recondite parts of his bodily frame, should be as satisfactory to the patient as it is to the scientific pathologist who gives him the information. But I am afraid it is not; and even the practising physician, while nowise under-estimating the regulative value of accurate diagnosis, must often lament that so much of his knowledge rather prevents him from doing wrong than helps him to do right. A scorner of physic once said that Nature and disease may be compared to two men fighting, the doctor to a blind man with a club, who strikes into the *mêlée*, sometimes hitting the disease and sometimes hitting Nature. The matter is not mended if you suppose the blind man's hearing to be so acute that he can register every stage of the struggle and pretty clearly predict how it will end. He had better not meddle at all until his eyes are opened—until he can see the exact position of the antagonists, and make sure of the effect of his blows. But that which it behoves the physician to see, not indeed with his bodily eye, but with clear intellectual vision, is a process, and the chain of causation involved in that process. Disease, as we have seen, is a perturbation of the normal activities of a living body; and it is and must remain unintelligible so long as we are ignorant of the nature of these normal activities. In other words, there could be no real science of pathology until the science of physiology had reached a degree of perfection unattained, and indeed unattainable, until quite recent times.

"So far as medicine is concerned, I am not sure

that physiology, such as it was down to the time of Harvey, might as well not have existed. Nay, it is, perhaps, no exaggeration to say that, within the memory of living men, justly renowned practitioners of medicine and surgery knew less physiology than is now to be learned from the most elementary text-book, and, beyond a few broad facts, regarded what they did know as of extremely little practical importance. Nor am I disposed to blame them for this conclusion; physiology must be useless, or worse than useless, to pathology, so long as its fundamental conceptions are erroneous. Harvey is often said to be the founder of modern physiology, and there can be no question that the elucidations of the function of the heart, of the nature of the pulse, and of the course of the blood, put forth in the ever-memorable little essay, 'De motu cordis,' directly worked a revolution in men's views of the nature and of the concatenation of some of the most important physiological processes among the higher animals, while indirectly their influence was perhaps even more remarkable. But, though Harvey made this signal and perennially important contribution to the physiology of the moderns, his general conception of vital processes was essentially identical with that of the ancients; and in the 'Exercitationes de generatione,' and notably in the singular chapter, 'De calido innato,' he shows himself a true son of Galen and of Aristotle. For Harvey, the blood possesses powers superior to those of the elements; it is the seat of a soul which is not only vegetative, but also sensitive and motor. The blood maintains and fashions all parts of the body, *idque summâ cum providentia et intellectu, in finem certum agens, quasi ratiocinio quodam uteretur.* Here is the doctrine of the *pneuma*, the product of the philosophical mould into which the animism of primitive men ran in Greece, in full force. Nor did its strength abate for long after Harvey's time. The same ingrained tendency of the human mind to suppose that a process is explained when it is ascribed to a power of which nothing is known except that it is the hypothetical agent of the process, gave rise, in the next century, to the animism of Stahl; and later to the doctrine of a vital principle, that *asylum ignorantiæ* of physiologists, which has so easily accounted for everything and explained nothing, down to our own times.

"Now, the essence of modern, as contrasted with ancient physiological science, appears to me to lie in its antagonism to animistic hypotheses and animistic phraseology. It offers physical explanations of vital phenomena, or frankly confesses that it has none to offer. And, so far as I know, the first person who gave expression to this modern view of physiology, who was bold enough to enunciate the proposition that vital phenomena, like all the other phenomena of the physical world, are in ultimate analysis, resolvable into matter and motion, was René Descartes. The fifty-four years of life of this most original and powerful thinker are widely overlapped on both sides by the eighty of Harvey, who survived his younger contemporary by seven years, and takes pleasure in acknowledging the French philosopher's appreciation of his great discovery. In fact, Descartes accepted the doctrine of the circulation as propounded by 'Hervæus, médecin d'Angleterre,' and gave a full account of it in his first work, the famous 'Discours de la Méthode,' which was published in 1637, only nine years after the exercitation 'De motu cordis;' and, though differing from Harvey in some important points (in which it may be noted in passing, Descartes was wrong and Harvey right), he always speaks of him with great respect. And so important does the subject seem to Descartes, that he returns to it in the 'Traité des Passions,' and in the 'Traité de l'Homme.'

"It is easy to see that Harvey's work must have had a peculiar significance for the subtle thinker, to whom we owe both the spiritualistic and the materialistic philosophies of modern times. It was in the very year of its publication, 1628, that Descartes withdrew into that life of solitary investigation and meditation of which his philosophy was the fruit; and, as the course of his speculations led him to establish an absolute distinction of Nature between the material and the mental worlds, he was logically compelled to seek for the explanation of the phenomena of the material world within itself, and having allotted the realm of thought to the soul, to see nothing but extension and motion in the rest of Nature. Descartes uses 'thought' as the equivalent of our modern term 'consciousness.' Thought is the function of the soul, and its only function. Our natural heat and all the movements of the body, says he, do not depend on the soul. Death does not take place from any fault of the soul, but only because some of the principal parts of the body become corrupted. The body of a living man differs from that of a dead man in the same way as a watch or other automaton (that is to say, a machine which moves of itself) when it is wound up, and has in itself the physical principle of the movements which the mechanism is adapted to perform, differs from the same watch or other machine when it is broken, and the physical principle of its movement no longer exists. All the actions which are common to us and the lower animals depend only on the conformation of our organs and the course which the animal spirits take in the brain, the nerves, and the muscles, in the same way as the movement of a watch is produced by nothing but the force of its spring and the figure of its wheels and other parts.

"Descartes' treatise on 'Man' is a sketch of human physiology in which a bold attempt is made to explain all the phenomena of life, except those of consciousness, by physical reasonings. To a mind turned in this direction Harvey's exposition of the heart and vessels as a hydraulic mechanism must have been supremely welcome. Descartes was not a mere philosophical theorist, but a hard-working dissector and experimenter, and he held the strongest opinion respecting the practical value of the new conception which he was introducing. He speaks of the importance of preserving health, and of the dependence of the mind on the body being so close that perhaps the only way of making men wiser and better than they are is to be sought in medical science. 'It is true,' says he, 'that as medicine is now practised it contains little that is very useful; but without any desire to depreciate, I am sure that there is no one, even among professional men, who will not declare that all we know is very little as compared with that which remains to be known; and that we might escape an infinity of diseases of the mind, no less than of the body, and even perhaps from the weakness of old age, if we had a sufficient knowledge of their causes and of all the remedies with which nature has provided us.'* So strongly impressed was Descartes with this that he resolved to spend the rest of his life in trying to acquire such

* Discours de la Méthode. 6me partie. Ed. Cousin. P. 193

a knowledge of nature as would lead to the construction of a better medical doctrine.* The anti-Cartesians found material for cheap ridicule in these aspirations of the philosopher; and it is almost needless to say that, in the thirteen years which elapsed between the publication of the 'Discours' and the death of Descartes, he did not contribute much to their realization. But for the next century all progress in physiology took place along the lines which Descartes laid down.

"The greatest physiological and pathological work of the seventeenth century, Borelle's treatise 'De motu animalium,' is, to all intents and purposes, a development of Descartes' fundamental conception; and the same may be said of the physiology and pathology of Boerhaave, whose authority dominated in the medical world in the first half of the eighteenth century. With the origin of modern chemistry and of electrical science, in the latter half of the eighteenth century, aids in the analysis of the phenomena of life, of which Descartes could not have dreamed, were offered to the physiologist. And the greater part of the gigantic progress which has been made in the present century is a justification of the provision of Descartes. For it consists essentially in a more and more complete resolution of the grosser organs of the living body into physico-chemical mechanisms. 'I shall try to explain our whole bodily machinery in such a way that it will be no more necessary for us to suppose that the soul produces such movements as are not voluntary than it is to think that there is in a clock a soul which causes it to show the hours.'† These words of Descartes might be appropriately taken as a motto by the author of any modern treatise on physiology.

"But though, as I think, there is no doubt that Descartes was the first to propound the fundamental conception of the living body as a physical mechanism, which is the distinctive feature of modern as contrasted with ancient physiology, he was misled by the natural temptation to carry out, in all its details, a parallel between the machines with which he was familiar, such as clocks and pieces of hydraulic apparatus, and the living machine. In all such machines there is a central source of power, and the parts of the machine are merely passive distributors of that power. The Cartesian school conceived of the living body as a machine of this kind; and herein they might have learned from Galen, who, whatever ill use he may have made of the doctrine of "natural faculties," nevertheless had the great merit of perceiving that local forces play a great part in physiology. The same truth was recognized by Glisson, but it was first prominently brought forward in the Hallerian doctrine of the 'vis insita' of muscles. If muscle can contract without nerve, there is an end of the Cartesian mechanical explanation of its contraction by the influx of animal spirits.

"The discoveries of Trembley tended in the same direction. In the fresh water *Hydra* no trace was to be found of that complicated machinery upon which the performance of the functions in the higher animals was supposed to depend. And yet the hydra moved, fed, grew, multiplied, and its fragments exhibited all the powers of the whole. And, finally, the work of Caspar F. Wolff,‡ by demonstrating the fact that the growth and development of both plants and animals take place antecedently to the existence of their grosser organs, and are, in fact, the causes and not the consequences of organization (as then understood), sapped the foundations of the Cartesian physiology as a complete expression of vital phenomena. For Wolff, the physical basis of life is a fluid, possessed of a 'vis essentialis' and a 'solidescibilitas;' in virtue of which it gives rise to organization; and, as he points out, this conclusion strikes at the root of the whole iatro-mechanical system.

"In this country the great authority of John Hunter exerted a similar influence, though it must be admitted that the too sibylline utterances which are the outcome of Hunter's struggles to define his conceptions are often susceptible of more than one interpretation. Nevertheless, on some points Hunter is clear enough. For example, he is of opinion that 'spirit is only a property of matter' ('Introduction to Natural History,' page 6), he is prepared to renounce animism (l. c., p. 8), and his conception of life is so completely physical that he thinks of it as something which can exist in a state of combination in the food. 'The aliment we take in has in it, in a fixed state, the real life, and this does not become active until it has got into the lungs, for there it is freed from its prison' ('Observations on Physiology,' p. 113). He also thinks that: 'It is more in accord with the general principles of the animal machine to suppose that none of its effects are produced from any mechanical principle whatever, and that every effect is produced from an action in the part, which action is produced by a stimulus upon the part which acts, or upon some other part with which this part sympathizes, so as to take up the whole action' (l. c., p. 152). And Hunter is as clear as Wolff, with whose work he probably was unacquainted, that 'whatever life is, it most certainly does not depend upon structure or organization' (l. c., p. 114).

"Of course, it is impossible that Hunter could have intended to deny the existence of purely mechanical operations in the animal body. But while, with Borelli and Boerhaave, he looked upon absorption, nutrition, and secretion as operations effected by means of the small vessels, he differed from the mechanical physiologists, who regarded these operations as the result of the mechanical properties of the small vessels, such as the size, form, and disposition of their canals and apertures. Hunter, on the contrary, considers them to be the effect of properties of these vessels which are not mechanical, but vital. 'The vessels,' says he, 'have more of the polypus in them than any other part of the body,' and he talks of the 'living and sensitive principles of the arteries,' and even of the 'dispositions or feelings of the arteries.' 'When the blood is good and genuine, the sensations of the arteries, or the dispositions for sensation, are agreeable. . . . It is then they dispose of the blood to the best advantage, increasing the growth of the whole, supplying any losses, keeping up a due succession, etc.' (l. c., p. 133).

"If we follow Hunter's conceptions to their logical issue, the life of one of the higher animals is essentially the sum of the lives of all the vessels, each of which is a sort of physiological unit, answering to a polyp; and, as health is the result of the normal "action of the vessels," so is disease an effect of their abnormal action. Hunter thus stands in thought, as in time, midway between Borelli, on the one hand, and Bichat, on the other. The acute founder of general anatomy, in fact, outdoes Hunter

* Discours de la Méthode. 6me partie. Ed. Cousin. Pp. 193 and 211.
† De la Formation du Fœtus.
‡ Theoria Generationis, 1759.

in his desire to exclude physical reasonings from the realm of life. Except in the interpretation of the action of the sense organs, he will not allow physics to have anything to do with physiology. 'To apply the physical sciences to physiology is to explain the phenomena of living bodies by the laws of inert bodies. Now, this is a false principle, hence all its consequences are marked with the same stamp. Let us leave to chemistry its affinity, to physics its elasticity and its gravity. Let us invoke for physiology only sensibility and contractility.' * Of all the unfortunate dicta of men of eminent ability this seems one of the most unhappy, when we think of what the application of the methods and the data of physics and chemistry has done toward bringing physiology into its present state. It is not too much to say that one-half of a modern text-book of physiology consists of applied physics and chemistry, and that it is exactly in the exploration of the phenomena of sensibility and contractility that physics and chemistry have exerted the most potent influence.

"Nevertheless, Bichat rendered a solid service to physiological progress by insisting upon the fact that what we call life in one of the higher animals is not an invisible unitary archæus dominating from its central seat the parts of the organism, but a compound result of the synthesis of the separate lives of those parts. 'All animals,' says he, 'are assemblages of different organs, each of which performs its function and concurs, after its fashion, in the preservation of the whole. They are so many special machines in the general machine which constitutes the individual. But each of these special machines is itself compounded of many tissues of very different natures, which, in truth, constitute the elements of these organs (l. c., lxxix.) The conception of a proper vitality is applicable only to these simple tissues, and not to the organs themselves (l. c., lxxxiv.).' And Bichat proceeds to make the obvious application of this doctrine of synthetic life, if I may so call it, to pathology. Since diseases are only alterations of vital properties, and the properties of each tissue are distinct from those of the rest, it is evident that the diseases of each tissue must be different from those of the rest. Therefore, in any organ composed of different tissues, one may be diseased and the other remain healthy, and this is what happens in most cases (l. c. lxxxv.). In a spirit of true prophecy, Bichat says: 'We have arrived at an epoch in which pathological anatomy should start afresh.' For, as the analysis of the organ had led him to the tissues as the physiological units of the organism, so, in a succeeding generation, the analysis of the tissues led to the cell as the physiological element of the tissues. The contemporaneous study of development brought out the same result, and the zoölogists and botanists, exploring the simplest and the lowest forms of animated beings, confirmed the great induction of the cell theory. Thus the apparently opposed views which have been battling with one another ever since the middle of the last century have proved to be each half a truth.

"The proposition of Descartes, that the body of a living man is a machine, the actions of which are explicable by the known laws of matter and motion, is unquestionably largely true. But it is also true that the living body is a synthesis of innumerable physiological elements, each of which may nearly be described in Wolff's words, as a fluid possessed of a *vis essentialis*, and a *solidescibilitas*; or, in modern phrase, as protoplasm susceptible of structural metamorphosis and functional metabolism; and that the only machinery, in the precise sense in which the Cartesian school understood mechanism, is that which co-ordinates and regulates these physiological units into an organic whole. In fact, the body is a machine of the nature of an army, not of that of a watch, or of a hydraulic apparatus. Of this army, each cell is a soldier, an organ a brigade, the central nervous system headquarters and field telegraph, the alimentary and circulatory system the commissariat. Losses are made good by recruits born in camp, and the life of the individual is a campaign, conducted successfully for a number of years, but with certain defeat in the long run.

"The efficacy of an army at any given moment depends on the health of the individual soldier, and on the perfection of the machinery by which he is led and brought into action at the proper time; and, therefore, if the analogy holds good, there can be only two kinds of diseases, the one dependent on abnormal states of the physiological units, the other on perturbation of their co-ordinating and alimentative machinery. Hence, the establishment of the cell theory in normal biology was swiftly followed by a 'cellular pathology' as its logical counterpart. I need not remind you how great an instrument of investigation this doctrine has proved in the hands of the man of genius, to whom its development is due, and who would probably be the last to forget that abnormal conditions of the co-ordinative and distributive machinery of the body are no less important factors of disease. Henceforward, as it appears to me, the connection of medicine with the biological sciences is clearly defined. Pure pathology is that branch of biology which defines the particular perturbation of cell-life, or of the co-ordinating machinery, or of both, on which the phenomena of disease depend.

"Those who are conversant with the present state of biology will hardly hesitate to admit that the conception of the life of one of the higher animals as the summation of the lives of a cell-aggregate, brought into harmonious action by a co-ordinative machinery formed by some of these cells, constitutes a permanent acquisition of physiological science. But the last form of the battle between the animistic and the physical views of life is seen in the contention whether the physical analysis of vital phenomena can be carried beyond this point or not.

"There are some to whom living protoplasm is a substance even such as Harvey conceived the blood to be, *summâ cum providentia et intellectu in finem certum agens, quasi ratiocinio quodam*; and who look, with as little favor as Bichat did, upon any attempt to apply the principles and the methods of physics and chemistry to the investigation of the vital processes of growth, metabolism, and contractility. They stand upon the ancient ways; only, in accordance with that progress toward democracy which a great political writer has declared to be the fatal characteristic of modern times, they substitute a republic formed by a few billion of 'animulæ' for the monarchy of the all-pervading 'anima.' Others, on the contrary, supported by a robust faith in the universal applicability of the principles laid down by Descartes, and seeing that the actions called 'vital' are, so far as we have any means of knowing, nothing but changes of place of particles of matter, look to molecular physics to achieve the analysis of the living protoplasm itself into a molecular mechanism. If there is any truth in the re-

* Anatomie générale, t., p. liv.

ceived doctrines of physics, that contrast between living and inert matter, on which Bichat lays so much stress, does not exist. In nature nothing is at rest, nothing is amorphous; the simplest particle of that which men in their blindness are pleased to call 'brute matter' is a vast aggregate of molecular mechanisms, performing complicated movements of immense rapidity, and sensitively adjusting themselves to every change in the surrounding world. Living matter differs from other matter in degree and not in kind; the microcosm repeats the macrocosm; and one chain of causation connects the nebulous original of suns and planetary systems with the protoplasmic foundation of life and organization. From this point of view pathology is the analogue of the theory of perturbations in astronomy; and therapeutics resolves itself into the discovery of the means by which a system of forces competent to eliminate any given perturbation may be introduced into the economy. And as pathology bases itself upon normal physiology, so therapeutics rests upon pharmacology, which is, strictly speaking, a part of the great biological topic of the influence of conditions on the living organism, and has no scientific foundation apart from physiology.

"It appears to me that there is no more hopeful indication of the progress of medicine toward the ideal of Descartes than is to be derived from a comparison of the state of pharmacology at the present day with that which existed forty years ago. If we consider the knowledge positively acquired in this short time of the *modus operandi* of urari, of atropia, of physostigmin, of veratria, of casca, of strychnia, of bromide of potassium, of phosphorus, there can surely be no ground for doubting that, sooner or later, the pharmacologist will supply the physician with the means of affecting, in any desired sense, the functions of any physiological element of the body. It will, in short, become possible to introduce into the economy a molecular mechanism which, like a very cunningly contrived torpedo, shall find its way to some particular group of living elements, and cause an explosion among them, leaving the rest untouched. The search for the explanation of diseased states in modified cell-life; the discovery of the important part played by parasitic organisms in the etiology of disease; the elucidation of the action of medicaments by the methods and the data of experimental physiology—appear to me to be the greatest steps which have ever been made toward the establishment of medicine on a scientific basis. I need hardly say they could not have been made except for the advance of normal biology.

"There can be no question, then, as to the nature or the value of the connection between medicine and the biological sciences. There can be no doubt that the future of pathology and of therapeutics, and therefore that of practical medicine, depend upon the extent to which those who occupy themselves with these subjects are trained in the methods, and impregnated with the fundamental truths, of biology.

"And, in conclusion, I venture to suggest that the collective sagacity of this Congress could occupy itself with no more important question than with this. How is medical education to be arranged, so that, without entangling the student in those details of the systematist which are valueless to him, he may be enabled to obtain a firm grasp of the great truths respecting animal and vegetable life, without which, notwithstanding all the progress of scientific medicine, he will still find himself an empiric?"

MISCELLANEOUS BUSINESS.

At the close of Professor Huxley's address, Mr. MacCormac followed with a statement, the most important items of which were that the number of members amounted to 3,210; that the sections had held 11 meetings, extending over 293 hours; that there had been delivered 464 written papers and 360 oral addresses. The attendance at the sections had been large, and had not shown signs of falling off even quite to the close. The museum was referred to as a great success, and the demonstrations of living patients had been attended by crowds each morning.

ENDORSING VIVISECTION.

Sir James Paget then presented the following resolution forwarded by Professor M. Foster, from the Physiological Section: "That this Congress records its conviction that experiments on living animals have proved of the utmost service to medicine in the past, and are indispensable for its future progress; that accordingly, whilst strongly deprecating the infliction of unnecessary pain, it is of opinion that, in the interests of men and animals, it is not desirable to restrict competent persons in the performance of such experiments." Pointing out that it was impossible to discuss such a resolution then, the President asked those who were opposed to it to record their names and votes at the close of the meeting. The resolution was then adopted with loud cheers, and no hand was held up in opposition to it.

TESTS FOR COLOR-BLINDNESS.

A resolution received from the Ophthalmological Section, on the subject of the tests most applicable to be employed in working and observing signals by land or sea where the lives of others are involved, was similarly carried unanimously, and the recommendations of the section ordered to be forwarded by the Hon. Secretary-General as the opinion of the Congress to the Foreign Secretary, the First Lord of the Admiralty, and the President of the Board of Trade.

MEDALS OF HONOR.

Mr. Bowman moved, and Professor Lister seconded, a resolution presenting a medal of honor to Professor Donders (President of last Congress), Dr. Guy (Hon. Secretary-General of last Congress), to Madame Raynaud, as a souvenir of the high part her husband was to have taken, and to the readers of the general addresses, Professor Virchow, Dr. Féréol, Dr. Billings, Professors Volkmann, Pasteur, and Huxley. This resolution was carried by acclamation, and Sir James Paget then presented the medals, requesting Professor von Langenbeck to receive Professor Virchow's, and Professor Charcot Madame Reynaud's and Dr. Féréol's.

A vote of thanks to those who, not being members of the Congress, had so largely aided in making the meeting a success, was moved by Professor von Langenbeck and Mr. Prescott Hewett; and a similar vote to Mr. Makins and his coadjutors, Messrs. Cowell and Little, and the permanent members of the staff of the Honorary Secretary-General, was moved by Dr. Guy and Sir R. Bennett, and carried with loud cheers. The part that these gentlemen have taken, and especially Mr. Makins, has not been conspicuous, but those who have been engaged in the working of the Congress know to how large an extent its success is due to their business capacity and untiring energy; Mr.

MacCormac is to be congratulated on having received such assistance.

CONCLUDING EXERCISES.

The selection of the next place of meeting was referred to the Executive Committee, and it was stated that invitations had been received from the King of Spain, from Copenhagen, Stockholm, and Christiania. A vote of thanks to Mr. MacCormac for his very efficient services was moved by Drs. Billings and Guéneau de Mussy, and the reception which this resolution met with from every member present must have been in the highest degree gratifying to Mr. MacCormac, and in some measure a reward for long-continued, arduous, and self-denying labors on their behalf. M. Charcot and Professor Donders moved the last resolution, thanking Sir J. Paget for his highly efficient conduct in the chair. This resolution was carried with enthusiasm, and the whole meeting rose and cheered the President. In a few words, which formed an apt conclusion of a week's work in which he has distinguished himself equally by his business capacity, his eloquence and graceful and lavish hospitality, Sir James Paget closed the meeting, wishing all "good-bye," and expressed the hope that their "good-being" might come from its highest possible source—well-doing, and the Great International Medical Congress of 1881 was dissolved.

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THE SOCIAL ENTERTAINMENTS.

On Thursday, August 4th, the Lord Mayor entertained a party of nearly three hundred at dinner at the Mansion House. The foreigners present included von Langenbeck, Donders, Billings, Pasteur, Flint, Kuster, Büsch, Klebs, Corneil, Brown-Séquard, Bigelow, Gerhardt, Hardy, His, Pantaleoni, Charcot, Esmarch, Brandis, Ollier, Tarnier, Verneuil, Parrot, Ranke, and many others. In proposing the toast of the International Medical Congress, the Lord Mayor spoke of the great pleasure it gave him to welcome such a distinguished company to the Mansion House; amidst an age of congresses, none had yet assembled which promised to have more important results than the one he then entertained, composed so largely of men distinguished for their scientific research, high intellectual gifts, and fruitful labors. Sir James Paget replied, and assured the Lord Mayor that although in science they looked for constant change, none had a higher regard for the institutions representing permanence, such as that whose hospitality they were then enjoying, than the doctors. In response to the toast of the Foreign Guests, proposed by the Lord Mayor, Professor Langenbeck expressed his warmest thanks for that magnificent banquet, and said that none would ever forget the happy days they had been allowed to spend in London.

Professor Trélat spoke of the hospitality he and all had received, and of the great improvements that had taken place in London during the last thirty years. Professor Pantaleoni referred to his visit to London in 1851, and the great changes that he saw now. He thought England deserved to be free and prosperous, for she has respected the liberties and aims of others. English science had always had the characteristic of being practical and certain, and he believed it was as distinguished for this to-day as ever. Dr. Austin Flint thought the Meeting of Congress would greatly increase the affection of the daughter or the mother-country, and that there would soon be such an exodus from America to London, that to cure it the Congress would have to meet in New York. Professor Donders, in proposing the health of the Lord Mayor, said that he came to London with great expectations, but that the reception and all the arrangements had far surpassed all he had pictured; and that evening was the climax, for the City of London acknowledged the real value of medical science to humanity.

On Friday, a lunch was given by Dr. Broadbent, President of the Medical Society of London, in the Society's Rooms, to the Honorary Fellows recently admitted and to the Council of the Society. After the lunch, Dr. Broadbent presented the diplomas to each of the distinguished Fellows in turn, introducing each in a few well chosen words. Those present were: Dr. Billings, Dr. Bigelow, Professor Charcot, Dr. Emmet, Professor Halla, Professor Tarnier, Professor Verneuil, and Professor Volkmann. Short speeches were afterward made by Professors Virchow, Charcot, Volkman, Verneuil, and Dr. Billings, and the guests quickly dispersed to the various sections with the general feeling that they had shared in one of the most successful of all the entertainments of the week. In the evening the Corporation of the City of London gave a brilliant conversazione at the Guildhall, which was attended by over three thousand five hundred persons, including all the foreign members of the Congress. The old hall itself was beautifully decorated with choice flowers, the library, council-chamber, museum, and every available room being opened and decorated. The Lord Mayor and Lady Mayoress received the guests on their arrival. The plate of the Corporation and City Companies was shown in one of the rooms, and made a splendid display; in the library many rare literary and art treasures were exposed, and the museum, of course, contained numerous objects of rare interest. Two military bands, and a concert of vocal music, contributed to the pleasure of the evening, and there was a liberal supply of man's more material wants in the crypt. The rooms were lighted by the electric light, the Swann and the Maxim lights being tried in places, the latter being supplied with electricity from storage batteries. Altogether, this reception was a most brilliant success.

Saturday was a half-holiday, the afternoon being given up to excursions and garden-parties. Several hundred ladies and gentlemen accepted Mr. and Mrs. Spencer Wells' invitation to a garden-party at Hampstead, where there was every provision that nature and hospitality could provide. About one thousand went by water or rail to Normansfield, at Dr. and Mrs. Langdon Down's invitation. A large party was taken over Hampton Court Palace by Dr. Down on their way to Hampton Wick. In addition to the beautiful grounds, all the institution was open to inspection. As is well known, every effort has been made by Dr. Down, with the able help of Mr. Plumbe, his architect, to make his house as complete in all its arrangements as can be, and they have succeeded in supplying every provision for the safety, comfort, enjoyment, and instruction of those entrusted to their care. About three hundred guests, including the President of the Congress, visited Fairlawn, Wimbledon Common, the residence of Mr. Saunders, President of the Section on Diseases of the Teeth. The beautiful grounds were in splendid condition, and the afternoon was greatly enjoyed. The Hungarian Band played in the garden.

Another party was received by Sir J. D. Hooker,

at Kew Gardens. Dr. A. Carpenter conducted a large number of the members of the Congress over the Sewage Farm at Croydon, which was most thoroughly and satisfactorily explored. They were then entertained at lunch in the interesting old hall at Beddington, and the very fine vegetables and fruit were a practical test of the productive capacity of the farm. The United Hospitals (Guy's and St. Thomas's) Club asked a party to dine with them at the Star and Garter Hotel, Richmond, and about seventy sat down to an excellent dinner. Mr. Bryant occupied the chair, and the guests included Drs. Charcot, Verneuil, Billings, Blandis, Liman, Lancereaux, Erb, Hueter, Sayre, Sir H. Thompson, Mr. Holden, and many others. Those of the guests who spoke, referred in warm terms not only to that act of hospitality, but to the remarkable success of the whole meeting, and to the warmth of the welcome they had received on all sides. Later in the evening the Countess Granville gave a reception, to which many members of the Congress were honored with invitations. Among those present were the ambassadors of the courts of Turkey, Italy, France, Spain, Portugal, Belgium, and the Netherlands, Sir James and Lady Paget, Sir R. and Lady Bennett, Drs. Dujardin-Beaumetz, Oscar Simon, Minis Hays, Trélaz, Andrew Clark, Albanese, De Mussy, Rothe, Brunton, Angelucci, Bigelow, Axel, Krebs, Vidal, Pavy, Rees, Volkmann, Battey, Martin, Maclagan, Ollier, Allen Thompson, and many others.

On Monday evening, the Master and Wardens of the Society of Apothecaries entertained at dinner a select company of about one hundred and twenty at their ancient hall at Blackfriars. The tables were profusely decorated, and the dinner one of the highest excellence, with very choice wines. Among the foreign guests we noticed Drs. Esmarch, Billings, Volkmann, Ball, Lancereaux, Goltz, Hardy, Krause, Worms, Eulenberg, Simon, Warlomont, Küster, Frericus, G. de Mussy, Chauveau, Carl Reyher, Erb, and Czerny. The toasts of the foreign visitors were responded to by Dr. Worms, Professor Esmarch, and Dr. Billings, Dr. Quain, Mr. Lister, and Sir H. Thompson. In the evening the whole Congress was invited to a conversazione at the College of Surgeons, which was largely attended. The museum was illuminated by the electric light, which, to some tastes, had a somewhat ghastly effect; whether it was the coming at the end of such a long and brilliant series of entertainments, with the consequent ennui, or the absence of ladies and some of the more brilliant adjuncts of other soirees we know not, but the evening was not such a striking success as some of the former. On Tuesday a large number of the members of the Congress, with their friends, dined informally at the Crystal Palace, and afterward witnessed a fine display of fireworks. The informality and ease of the meeting, and possibly also a sense of relief at having reached the end of what was a very hard week for all engaged in it, contributed to make this jovial gathering a very successful one.

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OUR REPORT OF THE CONGRESS.

We regret to say that we shall be unable, on account of the quantity of valuable material accumulated by the meetings of the Sections, to conclude our report of the Congress. We have been compelled to crowd out several reports of Sections, together with the address of Prof. Volkmann, which we hope to publish in our next issue.

## MEETINGS OF THE SECTIONS.

### SECTION ON ANATOMY.

The first business meeting in the Section of Anatomy was held on Thursday morning, the 4th inst., when an introductory address on "The Museum of the Royal College of Surgeons" was delivered by the President of the Section, Prof. Flower, F.R.S. Amongst the audience were noticed many foreign anatomists of eminence, such as Kölliker, His, Braune, Hannover, Toldt, Carruccio, Räbl-Rückhard, as well as nearly all the well-known representatives of British anatomical science—Turner, Struthers, Macalister, Humphry, Parker, Allen Thomson, Holden, etc. The subsequent sectional meetings were regularly attended by all these gentlemen, and the papers and discussions were of considerable value and interest. After the introductory address, a vote of thanks to Prof. Flower was moved by Dr. Allen Thomson, and seconded, in a few well-chosen sentences in English, by Prof. Kölliker.

THE NORMAL CHARACTERS OF THE HUMAN EMBRYO.

Prof. His (Leipsic) brought forward the very important proposition that "The Number of Embryos which have been Described, are Sufficient for Anatomists to Determine what are the Normal Characters of the Human Embryo, and that Probably in no Normal Embryo is there ever a Free Vesicular Allantois." Prof. His described his embryonic preparations at some length, and showed some beautiful wax-models and stereoscopic-slides in illustration of his remarks; Dr. Allen Thomson considered that the proposition was rather premature, inasmuch as some of the embryos mentioned were undoubtedly pathological, as most abortions must necessarily be. Dr. Thomson, as well as most of the other anatomists present, thought that there was more variability in the amount of attachment of the allantois to the chorion than Prof. His had stated. In fact, the general conclusion of the meeting seemed to be that further specimens must be carefully examined before such a general proposition as that of Prof. His could be adopted. The remainder of the sitting was devoted to a discussion on the characteristics of

HUMAN CRANIA IN RELATION TO RACE,

and was introduced by Prof. Turner in a paper "On the Cranial Characters of the Natives of the Admiralty Islands." The skulls described were eleven complete and one calvaria, all adults: seven males and five females. They were smeared with a red pigment, and one had an artificial nose and eyes modelled in a black material. They had been obtained in March, 1875, by the scientific staff of the Challenger, and entrusted to Prof. Turner for description. The crania were markedly delichocephalic (somewhat higher than broad), and while the females were microcephalic in capacity, the males were mesocephalic, there being a difference of about two hundred and fifty cubic centimetres between the two sexes. They approximated very nearly to the skulls obtained from the people inhabiting the coast-line of New Guinea. In the subsequent discussion, Prof. Flower pointed out the increasing value of such complete cranial descriptions in reference to the determination of races in places where there had been little, if any, admixture with foreign nations, and Dr. Räbl-Rückhard, of Berlin, gave a short account of forty-two

skulls from New Britain, which had been collected during a German expedition to the Kerguelen Island. One point of interest was that these skulls, although coming from an island much nearer to the Admiralty Islands than to Australia, bore a greater resemblance to the Australian type than to those described by Prof. Turner. Profs. Toldt (Prague) and Lesshaft (St. Petersburg) joined in a most interesting anthropological conversation, the latter referring especially to twenty-five Kalmuck skulls which he had examined.

### THE SUPRA-CONDYLOID PROCESS AND HEREDITARY TRANSMISSION.

On Friday, Professor Struthers described minutely a series of dry and wet specimens, showing a supra-condyloid process. He showed that, although well known to every anatomist in its ordinary form, when it is also of great importance to the operating surgeon, it had been overlooked in its rudimentary condition, which he had found to exist normally in every human subject which he had examined. In these cases it is found as a band or bands of fibres beneath the brachialis anticus muscle. A striking instance of its hereditary transmission was next described, and the theory of descent referred to as the only explanation of its presence, occurring as it does so widely amongst mammalia, from the ornithorhynchus paradoxus upward to man; in the latter no teleological explanation was available. Professor Flower pointed out that the very variability of this process in the mammalia was in favor of its being transmitted by descent. It may be casually remarked, that in the subsequent discussion all the anatomists who spoke, regarded the evolution theory as the only possible hypothesis for the explanation of the occurrence of this and similar structures, and no one even ventured on a teleological argument.

### THE POSITION OF THE STOMACH.

Professor Lesshaft next read two papers: 1st, "On the Causes which Determine the Shape of the Bones, Illustrated by Numerous Specimens from Man and the Lower Animals;" and, 2d, "On the Position of the Stomach." He considered that this organ is placed more vertically than is generally supposed, but its oblique position, as shown in Dursy's model, made under the supervision of Luschka, was strenuously maintained by Professors His, Kölliker, and Braune, and by Mr. Holden, who all agreed that a vertical stomach only existed in the young child. Dr. Laura, of Turin, read two papers on the minute structure of the spinal cord and medulla oblongata. Professor Adamkiewicz, of Cracow, made a short communication of the minute vessels of the spinal cord, and Professor Léon Tripier, of Lyons, showed some anatomical transparent preparations of sections of the limbs, and described his method of preparing and mounting them. These gentlemen exhibited their specimens and gave a further demonstration in the museum in the afternoon.

### CRANIAL MEASUREMENTS AND THE PRIMORDIAL CARTILAGE OF THE HUMAN SKULL.

On Saturday, the subject of cranial measurements was again brought forward by Professor Benedikt of Vienna, who described a new method of measurement by means of an instrument which he had invented, and showed some drawings which he had made with it. Professor Hannover, of Copenhagen, next gave a most lucid and interesting account, in English, of the primordial cartilage of the human skull, and showed several embryonic cartilaginous crania, and some special preparations, demonstrating that Meckel's cartilages do not unite in the median line as is generally supposed, but that they are separated by a slight interval, and terminate in a hooked extremity; and Professor Redfern made a few remarks on the insignificance of the question as to whether ossification is preceded by cartilage, or takes place in an original fibrous membrane.

### THE NERVE-SUPPLY AND HOMOLOGY OF MUSCLES IN DIFFERENT ANIMALS.

Another very important communication was read by Dr. Cunningham, of Edinburgh, on the importance of the nerve-supply in determining the homology of muscles in different animals. He considered that attention should be given thereto, as well as to their attachments, but could not go so far as to accept the position of Dr. Ruge, of Heidelberg, who has recently asserted that the nerve-supply is an infallible guide in determining these questions. Professors Macalister, Kölliker, Struthers, Turner, and Mr. Forbes took part in the discussion, and showed that the segmentation of the primitive muscle-masses was so very different in different animals, that questions of homological relationship were very difficult to make certain of, and required great caution in handling, although their study was most interesting and captivating. Dr. Fasebeck, of Brunswick, gave a short description of some exquisite dissections which he had made to prove the independence of the small or motor portion of the fifth nerve, and Dr. Howard pointed out the anatomical mechanism by which a post-oral passage may be secured for the entrance of air into the lungs in cases of threatened apnœa.

### THE FORMATION OF THE EMBRYONIC MESODERM.

On resuming the business of the section on Monday, Professor Kölliker gave an excellent *résumé*, in English, of his views on the formation of the embryonic mesoderm, as seen by him in the rabbit. In this animal he had clearly traced its derivation from the cells of the ectoderm, but thought that it might arise differently in different animals, and so in some cases be derived from the endoderm, as described by some other embryologists. Even at the earliest periods the cells of the mesoderm resemble connective-tissue corpuscles, and not epithelial cells, although subsequently in certain places they may be transformed into the latter. Professors His, Schäfer, and Allen Thomson took part in the discussion, after which Professor Kölliker, in response to a request made by Professor Turner, explained his view of the formation of the chorda dorsalis from the mesoderm, and not from the endoderm as is often supposed. Professor Kölliker exhibited some specimens of embryos in support of his views, and illustrated his communication by some remarkably clear drawings on the black-board, as he proceeded with his remarks.

### THE HUMAN INTERMAXILLARY BONE.

The Professor next made a communication on behalf of his son, Dr. Theodore Kölliker, "On the Human Intermaxillary Bone." Dr. Kölliker had demonstrated its separate existence in fœtuses of eight weeks old, but at the end of the ninth week it was always fused with the superior maxilla. The number of teeth in the intermaxillary bone was not constant.

THE SUBCUTANEOUS VEINS OF THE TRUNK.

Mr. Fenwick then gave a most interesting account of the subcutaneous veins of the trunk as dissected by him under the supervision of Professor Braune of Leipsic. He stated that he had been obliged to make as many as five hundred or six hundred injections in order to fill the system completely. They might be divided into three zones: an upper zone running into the axillary vein, a lower zone into the femoral, and an intermediate zone, destitute of valves, emptying itself indiscriminately into either of the other sets. The communication between the portal system and the epigastric veins, by means of Sappey's vein in the round ligament of the liver, was also shown. Professor Braune referred to the pump-like action on the venous circulation of the movements of the fasciæ at the points where the veins pass through, and to the arrangement of the valves at these points. The remainder of the session was occupied with a spirited discussion on "Anatomical Teaching," introduced by a paper by Professor Struthers, comparing the British and Continental Schools, and another by Professor Keen, of Philadelphia, on the advantages of a systematic use of the living subject in facilitating anatomical study.

THE CEREBRAL SINUSES AND THEIR VARIATIONS.

On Tuesday, Mr. Knott, of Dublin, began with an exhaustive account of "The Cerebral Blood-Sinuses and their Variations." Deviations were frequently found, and their details in forty-four skulls examined carefully with a view to relative frequency were laid before the session.

Dr. Gasson read a paper on "Pelvic Measurements," with a view to determining which are the most important for the purpose of comparing the pelves of different races. He thought that transverse measurements at the brim form a better standard than antero-posterior. Comparative measurements of the pelves of fourteen European females, five Australians, and thirteen Andamanese were given in illustration. Professors Turner, Thane, and Braune suggested other measurements as being also of proved utility.

Two important papers on "Development" were read by Drs. Rein and Lebedeff of St. Petersburg. Dr. Rein (in the course of an elaborate memoir on the mammary gland) took exception to Dr. Creighton's description of the surrounding fat-tissue taking any part in the formation of the parenchyma of the gland, and did not confirm Gegenbaur's statement of the peculiar mode of the formation of the nipple in ruminants.

Professor Sapolini, of Milan, described as a thirteenth cranial nerve the origin of the portio-intermedia of Wrisberg from the brain, and traced it into the chorda tympani; and Professor Hannover gave a demonstration of the funiculus scleroticæ—the remains of the primitive fetal fissure—in the human eye.

The business of the section being finished, Professors Braune and His, in very eulogistic terms, thanked the officers of the section for their courtesy and the excellent arrangement of the work, and the session terminated.

## SECTION ON SURGERY.

This section was well attended throughout, and worked very hard, having prolonged its meetings beyond the time fixed. But what has enabled the section to compass nearly all the work proposed has been the admirable manner in which the wise rules of debate have been courteously, but firmly, carried out by the President.

THE TREATMENT OF ANEURISM BY THE ELASTIC BANDAGE.

After the address of the President, Staff-Surgeon Reid, who was the first to treat aneurism by Esmarch's elastic bandage, opened a discussion on this subject with a paper recording his own cases, and pointing out that sacculated aneurisms were the only ones suited for this treatment, which cured the aneurism by causing coagulation of the whole mass of blood in the sac. Mr. Pearce Gould followed much on the same lines; he gave a table of sixty-two published cases in which this treatment had been employed, and from this he drew the conclusion that the more important element in the cure is the organization of the clot in the artery itself, and that failure may result either from the blood not clotting at all, or from washing away the clot first formed. He further pointed out that the danger of over-distending the other arteries, or of overtaxing a weakened heart, ought to be guarded against, and that preparatory treatment to increase the plasticity of the blood was desirable. Mr. Bryant referred to three cases in which he had failed to cure the aneurism, and regarded the capillary hemorrhages in the part of the limb not emptied of blood as liable to lead to gangrene. Mr. Pemberton related a case, fatal from gangrene, where it was found that the vein was completely obliterated opposite the aneurism, which was occluded with coagulum. It is difficult to accept Mr. Bryant's view; even admitting the facts to be as he states, capillary hemorrhage in the ham cannot cause gangrene of the toes, and obviously there can be no capillary hemorrhage in the parts emptied of blood by the bandage. Mr. Pemberton's case had, of course, no special bearing upon this form of treatment; the same result would have followed occlusion of the main artery by other means; for with the arterial flow obstructed, interference with the venous return is one of the best-recognized causes of gangrene. This subject, then, remains much where it was. The table of cases circulated may stimulate inquiry, and the pathology of the method which Mr. Gould has briefly discussed before, he has now more fully elucidated.

THE SURGICAL TREATMENT OF INTRA-PERITONEAL TUMORS.

Mr. Spencer Wells opened the discussion on recent advances in the surgical treatment of intra-peritoneal tumors, and the points upon which he laid stress were the necessity for union of the edges, or rather surfaces, of the cut peritoneum, so as to insure immediate union; the great value of pressure-forceps for the control of hemorrhage; and the fact that the use of antiseptics has done away with the need for drainage. During the last three years he had not used drainage once, though he thought two or three patients had died who might have been saved by it. Dr. Marion Sims strongly advocated drainage, though admitting it often led to ventral hernia, while Drs. Keith, Thornton, and Martin advocated it for severe operations only, and in cases of cysts with putrid contents. In reference to removal of uterine tumors, in addition to the citation of interesting cases by several speakers, the main outcome of the discussion was, that the operation was rendered safer and attended with less loss of blood when the tumor could be raised out of the womb

and enveloped in an elastic bandage. The careful closure of both the uterine and the peritoneal cavities, where both were opened, was insisted on; Mr. Thornton pointed out the great difficulty of rendering the uterine cavity aseptic; and the use of the elastic ligature for the pedicle was advocated. The antiseptic method had many warm supporters, but Dr. Keith stated that with it, after having a succession of eighty successful cases, he had five deaths in the next twenty-five cases: two from carbolic-poisoning, one from septicæmia, and two from acute nephritis. On account of this mortality, and of the very frequent high temperature the evening after the operation, he had abandoned the spray in all operations, and had only had one death out of twenty-seven ovariotomies without the antiseptic treatment. Professor Czerny related a successful case of excision of the pylorus; and Mr. Tait referred to his experience in abdominal surgery, to show how the domain for surgical interference is extending to pelvic abscesses, etc. Of all the many surgical improvements of the last thirty years, there is none that can take a higher rank than this, and it appears that we have not yet learned the full extent of its value, or appreciated the degree to which the peritoneal cavity can be interfered with without a disproportionate danger.

NEPHROTOMY—NEPHRO-LITHOTOMY AND NEPHRECTOMY.

The question of surgical interference with the kidney was raised and discussed by Czerny, Baker, Barker, Barwell, Lucas, Martin, and Langenbeck. All had cases of nephrotomy, nephro-lithotomy, or nephrectomy to relate, and Dr. Martin stated that he had seven times removed a painful floating kidney, and once a malignant tumor of the kidney, with five recoveries in all. To aid the diagnosis of renal conditions, Mr. Barker suggested that in stone the kidney should be exposed from the loin and carefully explored with a needle, and the President considered the suggestion valuable. The difficulty of deciding whether pyelitis or suppurating sacculated kidney is unilateral or bilateral, is a strong argument against performing such a severe operation as nephrectomy without being sure of removing the entire disease, and until diagnosis has advanced the application of this treatment, it must be very limited. The excellent cases recorded show the feasibility of the three operations named above, and, so far as they may be taken as a guide, prove that nephrectomy is not more dangerous to life than nephro-lithotomy and nephrotomy. Three methods of removal of the kidney were described: the lumbar, the intra-peritoneal, and the abdominal extra-peritoneal. The first would seem to be at once the most difficult and the safest; but Dr. Martin states that, in removal of the kidney from the front of the belly, the peritoneum falls together so completely that it does not even require stitching. A decision on this point must follow the more accurate diagnosis of the precise conditions in which removal of one of the kidneys is justifiable; it is on this point that most light is required at present. No detailed information was given of the physiological effects of removal of one kidney.

THE RECENT ADVANCES IN THE METHODS OF EXTRACTING STONE FROM THE BLADDER.

The next discussion was raised on the recent advances in the methods of extracting stone from the bladder of the male, and was opened by Sir H. Thompson in a very able paper, continued by Professor Bigelow, and joined in by most of the leading authorities on this subject. The question naturally divides into two—lithotomy and lithotrity. As to the former, the only novelty proposed was the use of the thermo-cautery instead of the knife in both perineal and, especially, supra-pubic lithotomy, with the view of avoiding hemorrhage and having a dry, non-absorbent wound. The objections to this plan are so obvious, viz.: the formation of a deep slough, the inability to follow the exact steps of the operation and regulate the amount of damage—that they only require to be stated. More valuable were Mr. Teale's remarks on the improved results of lithotomy in late years, owing to the avoidance of septic diseases, and the greater deliberation in the extraction of the stone—a point always most important to bear in mind, for in this case rapid operating is not only uncalled for, but mischievous. Dr. G. Buchanan advocated the use of the rectangular staff, which makes the operation easier and safer; but Professor Spence, whilst praising it, pointed out that in cases of very large prostates its point may not reach the bladder, and so lead to trouble. Sir H. Thompson spoke hopefully of the plan of crushing a very large calculus *in situ* by powerful forceps before opening the bladder, and recommended a combination of lithotrity with an opening into the membranous urethra from the perineum in cases of greatly enlarged prostate, with irritable bladder and urethra.

As regards lithotrity, it was admitted by all that Professor Bigelow had not only introduced a new principle into the operation by insisting on the axiom that the bladder was more tolerant of instruments than of sharp fragments of stone, but that his practice was also an improvement. Out of ninety-one cases operated on after this plan by Sir H. Thompson, eighty-eight recovered. Beyond this, however, there was no agreement. Bigelow insists on the value of large instruments, even for small and moderate-sized stones, and that his operation is suited for all cases of lithotrity. Sir H. Thompson is as earnest in contending that the instruments should be proportionate to the size and hardness of the stone, and never larger than necessary; while Mr. B. Hill thinks that there are many cases in which the old operation is better, the danger in injuring the deeper parts of the urethra in men of adult middle age being important. Mr. Teevan spoke of the entire absence of chronic cystitis after Bigelow's operation. As to whether the new operation has enlarged the field of lithotrity, Mr. Coulson spoke of having removed four ounces of stone at one sitting; Sir H. Thompson showed the *débris* of large stones thus removed, and the results of Bigelow's practice are well known; Mr. Teale and Dr. Buchanan concurred in the belief that, except to the practiced lithotritist, such was not the case, and that the lithotrite could not be used with more safety for a larger stone now than formerly, and that, whenever doubt existed, it was safer to lithotomize. Professor Bigelow showed his latest improvements in the lithotrite—a new simple catch—and in the exhausting bottle, the chief features of which are a hose attached to the top of the bottle to admit water or to give exit to air during the operation, and a new valve and trap at the junction of the catheter and exhausting tube to catch all the dust and fragments that in the ordinary way pass to and fro in the tube, and so delay the evacuation. This is no doubt a direction in which improvement is needed, but it is a question whether this trap or Mr. Clover's original

simple contrivance be the better for the purpose. There is much in Mr. B. Browne's observation of the great desirability of keeping surgical apparatus as free from complications as possible. Dr. Bigelow, at the close of the meeting, gave a very interesting demonstration of the use of his apparatus, and it must have been gratifying to him to find that among the differences of opinion on other points, all were agreed in ascribing to him the full credit of his principle of practice, both for its novelty and its value.

EXCISION OF JOINTS.

To M. Ollier was allotted the task of introducing the subject of "Excision of Joints," and he laid stress on the value of the subperiosteal plan, and stated that when properly carried out, even the cartilage might be regenerated in the new joint—he preferred early to late excision. M. Rocher, of Berne, followed with his statistics of sixty-four cases of excision with six deaths—he has recently tried to obtain a movable knee-joint after excision. Mr. Newman related a very excellent case where drainage of the joint was successful in acute arthritis subsequent to disease of the head of the tibia. But the real question at issue was as to the desirability of the operation early or late in the disease. Mr. Bryant, Mr. Heath, and Mr. Marsh strongly advocated a limited use of the operation; they regard the disease as local, and as locally curable, and therefore consider excision out of place except after all other methods have failed, and in advanced disease. On the other hand, all were agreed that in such cases the results of excision have been most disheartening; and for this reason, and also because of the shortening of the total period of pain and illness, and of the connection of the local disease with general disease, others—Messrs. Crott, Teale, Treves, and Barton—recommend an early resort to the operation. The arguments urged on each side are, no doubt, well worthy of full consideration; it is, however, for those who operate to demonstrate the necessity for the practice. It is impossible not to see that those who urge operation very early will be led to operate when not necessary, as errors in diagnosis will occur to all; and further, such a practice will tend to draw attention from the main requisite—a mode of cure of the disease. Perhaps hardly sufficient stress was laid upon the excellent results given by free incision into chronically diseased joints. We should mention that Dr. Sayre showed drawings of a case of singularly perfect reformation of the hip-joint after excision; new cartilage was present.

PRIMARY UNION IN OPERATION WOUNDS, AND THE ANTISEPTIC TREATMENT.

The most important and best sustained of all the discussions took place on Monday, August 9th, on "The Causes of Failure in Obtaining Primary Union in Operation Wounds, and on the Methods Best Calculated to Secure it." Mr. Savory opened in a very eloquent and philosophic speech, pointing out that primary union was most likely to occur when fresh surfaces are brought together in their natural state, and maintained so without disturbance. The chief cause of failure he believed to be "meddlesome surgery," and essential principles were rest, cleanliness, and asepsis, which admit of almost endless variation in detail. He asked, when a wound was septic or aseptic, was fever, or pus, or only smell, to be the criterion? Defending his Cork statistics, he claimed that they had not been surpassed, though equally good results were obtained by many different plans of treatment, the actual processes of healing being primarily independent of them all.

Mr. S. Gamgee followed, and showed the antiseptic absorbent cotton-pads he has used with success. As one proof of their antiseptic power, he showed a piece of meat which had been lying between two of them, but exposed to the air for fifteen seconds every day, and was perfectly sweet at the end of twelve days. The principles he laid stress upon were perfect dryness of the wound, thus removing one of the conditions of putrefaction; rest, and infrequent change of dressing; circular compression, and suitable position, with the use of antiseptics as an important adjunct.

Dr. Humphrey spoke of the importance of a clean-cut wound in healthy tissues, very accurate apposition of the edges and surfaces, with very careful closure of all bleeding vessels. The air acting injuriously both as a direct depressant of the vitality of the tissues, and through floating agents, it was only wise to use some form of antiseptic to purify the air.

Professor Verneuil considers that the disposition of the wound, and of the patient, are the great factors in the healing process. Professor Esmarch's statistics of his own practice are so remarkable, that it is necessary to give them in full. In 398 great operations (6 deaths) eighty-five per cent. of the cases cured, healed by first intention with one dressing, in fifteen per cent. the dressing was renewed—and this ratio had improved of late. There were 146 excisions of large tumors; 40 excisions of mammæ, and axillary glands; 14 castrations, with 1 death from pericarditis and old syphilis, 1 from apoplexy, 1 from fatty heart. Of 51 major amputations (thigh 18, leg 27, arm 5, forearm 1), 1 died from shock and hemorrhage, and 1 from delirium tremens. There were 61 resections; 11 exarticulations; 26 necrotomies; 13 nerve-stretchings, 1 for tetanus, which was fatal; 8 hernias; 21 large cold abscesses; 12 large wounds; 49 compound fractures. The cases were all dressed with pads soaked in iodoform and absolute alchohol (ten per cent.), fastened on by an iodoform bandage, over that a large pillow of jute and gauze, a moist bandage, and over all an elastic bandage. Professor Volkmann thought that all suppuration is septic, and that personal peculiarity in the main had nothing to do with the healing of a wound. Other evidence was offered and opinions given which only corroborated the above, and supported various ways of carrying out a dry dressing, with rest and compression combined with antiseptics, as advocated by Mr. Gamgee, whose labors in this direction have perhaps not been sufficiently recognized.

Professor Lister wound up the discussion. In reference to Dr. Keith's experience, he stated that he had dissuaded him from using antiseptics in the first instance; in such an operation there is abundant room for effusion and means of absorption, while carbolic acid both increases the one and lessens the other; but on the whole he thought antiseptic ovariotomy had been successful. Referring to the experiments detailed at Cambridge, which showed that diluted septic poison may be added without effect to blood-serum, though not to diluted blood-serum, he further recited more recent experiments which showed that blood-clot in the body is still less favorable to the development of organisms. He expressed his belief that it is "solid bits of dirt" that are the deleterious agents, and that possibly

too much attention has been paid to the finest particles floating in the air. His own results, however, were so good, that he shrank from giving up any one of the details of the treatment by which he obtained them, although he quite admitted that he too might at some future time be able to say *fort mit dem spray;* at present he could not accept irrigation as a substitute for the spray. He denied that there was any ground for the charge that he disregarded the general condition of the patient or his hygienic surroundings. Were this true, his results being so good, as admitted by all, what a strong argument it afforded to the efficacy of his merely local treatment! There was no time for Professor Lister to touch upon the many points raised by previous speakers. If we were to attempt to give in a few words the general impression produced by the debate, we should say that the value of antiseptics was clearly recognized by all; that it was made evident that Professor Lister's aim may be attained by means other and simpler than his; that in particular the value of the spray is considered very doubtful; but more than all, that antiseptic treatment only answers one of the requirements of wound-treatment, and that he only is a scientific surgeon who enlarges his views and practice to embrace all.

SYPHILIS IN TUBERCULOUS AND GOUTY CONSTITUTIONS.

The final discussion was on the modifications of syphilis in tuberculous, gouty, and other constitutions, and was opened by M. Verneuil, who maintained that scrofula attracts syphilis to the organs it most commonly itself affects, and is apt to cause suppuration, but to remove the element of pain. Tuberculosis makes some tertiary syphilitic manifestations persist indefinitely. Mr. Hutchinson had never seen a hybrid of syphilis and struma or tubercle or gout, nor had he been able to trace any modification of syphilis by these diseases, although the variations met with were no doubt to be explained by the idiosyncrasies of the patients. The antecedents of a patient did not enable him to predicate anything of the course of the acquired disease. In gouty patients he had often noticed severe bone and joint pains. He thought, however, that a severe form of ulceration of the face, closely resembling lupus, was to be accounted for by the influence of struma on inherited syphilis. Dr. Bennett knew of no modifications of rickety, gouty, or other bone changes that could be traced to syphilis, and he referred to the absence of information on the syphilitic changes in joints. Dr. Drysdale spoke to the existence of syphilitic phthisis from gummatous change. But so far as the discussion may be taken as a criterion of professional knowledge, no satisfactory evidence of syphilitic hybridism, or of marked modification of syphilis by any other dyscrasia, has been demonstrated.

## SECTION ON MEDICINE.

Sir W. Gull, in his presidential address, singled out the chief topics that would be discussed, and following in his lines we may most conveniently convey an idea of the nature and quality of these topics by treating them in groups, and dwelling, so far as our limited space will permit, on the main points debated. In the earlier portion of his address the President had sketched out the share taken by each nation in the early development of medical science, and the proceedings of the section reflected fairly well the different nationalities comprising the Congress, and several papers were read and speeches made in the French and German tongues. The disease of the nervous system which had the largest share of attention bestowed upon it was locomotor ataxy.

NERVE-STRETCHING IN LOCOMOTOR ATAXIA.

The first paper read was by Professor Langenbeck, upon nerve-stretching in this disease, the author relating successful cases where the operation undertaken to give relief to the pains had ameliorated the actual ataxic symptoms, the inference being that stretching of the sciatic nerve initiated changes of a beneficial character in the spinal cord itself. As Sir W. Gull remarked, this introduced a new idea on the nature of ataxy, and Dr. Ogle asked whether the curative effect of nerve-stretching was proved to occur in cases where the lesion of the spinal cord was primary as well as in those cases where it might be considered secondary to peripheral nerve-changes. Professor Eulenberg, of Greifswald, also spoke, and Dr. Brown-Séquard supported the author's views by giving the results of experiments on nerve-stretching which he had found to influence the sensory functions of nerves beyond the region of that actually stretched. Dr. Buzzard, in a paper on certain little-recognized phases of tabes dorsalis, gave a very clear account of the existence of a class of cases in which the classical symptom of ataxy is absent. Such cases, he maintained, are marked by the absence of the knee-phenomenon and by the presence of *crises gastriques*, and sometimes of joint affection; cases in which the gastric symptoms endured for years and predominated over the other characters of tabes—such as the Argyll Robertson phenomenon and lightning-pains—and led to diagnosis of gastric cancer, gout in the stomach, or intestinal obstruction. He also referred to cases where other of the symptoms of tabes predominated, and adopted Perrot's view, that the disease is essentially a chronic inflammation of sensory fibres. Dr. Buzzard lays great stress upon the importance of examining for the patella tendon reflex in all such cases, and it is to be regretted that time did not permit of a discussion upon his paper.

SYPHILIS AS A CAUSE OF LOCOMOTOR ATAXY.

A paper by Professor Erb, of Leipsic, on the "Rôle of Syphilis as a Cause of Locomotor Ataxy," gave rise to considerable debate; and certainly the author laid himself open to the criticism of proving too much, for whilst he found evidence of previous infection in eighty-eight per cent., there were no secondary symptoms in twenty-nine per cent., and he used this as an argument in favor of the unicist view of syphilis. By comparing these statistics with those of other male adults not the subjects of tabes, he found that only twenty-three per cent. of these had been infected at all, and but twelve per cent. had secondary syphilis. The conclusion arrived at was that "tabes in ninety per cent. of all cases is occasioned by syphilis as one of its etiological factors," and it may be pointed out that this is in agreement with the previous statements of M. Fournier and Dr. Gowers on the subject. Dr. Althaus, of London, in the debate said that he had obtained a history of primary syphilis also in ninety per cent. of his cases of ataxy, but of secondary syphilis in forty per cent., and he contrasted these results with a like inquiry into the antecedents of cases of other nervous diseases taken consecutively. But, as Dr. Gairdner remarked, it was a matter of insuperable

difficulty to arrive at a true history of antecedent syphilis (especially where there were no secondary symptoms) in any large number of cases, and he could not accept the conclusions of Professor Erb and Dr. Althaus on this ground alone. An exception might certainly be taken to one of the cases cited by the author, where the search for syphilitic infection (the case was a remarkable one of ataxy in a girl nine years old) resulted in the discovery that the patient's maternal grandfather had been the subject of it!

Opposition to the view of Erb was also directed from the pathological side, M. Lancereaux, of Paris, maintaining that the lesions of locomotor ataxy do not present the characters of syphilitic sclerosis and syphilitic lesions in other organs; and his conclusion was that syphilis and ataxy were coincident, not correlated, believing the reason of the predominance shown by Professor Erb to lie in the fact that ataxy occurs in individuals addicted to sexual excesses. Dr. Banks, of Dublin, thought there was a positive etiological connection between syphilis and tabes; and Dr. Lambred, of Constantinople, and Professor Rosenstein, of Leyden, also spoke on the matter. Sir W. Gull, in closing the debate, pointed out that the syphilitic poison produced indirect effects, inducing degeneration of tissues. The debate has not, therefore, led to definite results; but, taken in connection with the supposed curative effects of nerve-stretching in this same disease, it seems still to leave the question more open than Professor Erb would wish us to believe. A paper by Professor Ball and Dr. Thebierge, of Paris, was contributed to show the dependence of perforating ulcer of the foot upon locomotor ataxy, and in demonstrating its probable connection with trophical disturbance, the authors were in harmony with the views of Mr. Savory and Mr. Butlin in their valuable contribution to the Royal Medical and Chirurgical Society a year or two ago.

### LOCALIZATION OF CEREBRAL AND SPINAL DISEASES.

Dr. Brown-Séquard had undertaken to address the section upon the subject of "Localization of Disease in the Brain and Spinal Cord," from a pathognomonic and diagnostic point of view; and the abstract of his communication offered a very exhaustive field for his remarks. He contented himself, however, with giving a brief oral disquisition, his main contention being that groups of symptoms rather than isolated manifestations must be taken into account in the attempt to correctly localize disease in the brain or cord; and that the effects of a lesion in the centre were produced at a distance, and were irrespective of the direct paths of transmission of nervous impulses—which he illustrated by the fact that a puncture of the medulla will produce degeneration in the sciatic nerve, and a lesion of the sciatic nerve induce changes in the motor centres of the brain. He spoke of a dynamic influence as operating thus on parts at "a distance," and said that the anterior pyramids might be cut without paralysis ensuing, and then their cut ends (central or peripheral) when irritated produced movements on the same side as the lesion, *i.e.*, in parts where the pyramidal fibres do not go. M. Charcot, on the other hand, contended that the facts of clinical and pathological observation were indubitable, and could not be harmonized with the experimental evidence adduced by Dr. Brown-Séquard, who, however, asserted that he believed that certain elements were endowed with distinct functions.

Although it would have been obviously impossible for Dr. Brown-Séquard to have traversed all the lines laid down in the abstract of his paper, his communication suffered somewhat in being as condensed as it was, and the precise points of difference between him and the school represented by Charcot were not clearly brought out. The section had the opportunity, however, of hearing the views of that school enunciated by Dr. Hughlings-Jackson, who indeed is entitled to be considered the pioneer in localization theory. His paper was upon the subject which led to his suggestion of the existence of specialized motor centres, viz., epileptiform convulsions from cerebral disease, and was a masterly review of the whole subject. Dr. Jackson dealt with the following points: (1) Starting-points; (2) ranges; (3) march of spasm; (4) suddenness of onset, rapidity of spreading, and direction of seizures; (5) post-paroxysmal condition (paralysis); (6) post-epileptiform aphasia; (7) affection of consciousness; (8) locality of lesion (anatomical diagnosis); (9) physiology of lesion; (10) pathology of brain; and (11) treatment; and his paper was followed by a debate shared in by Dr. Brown-Séquard, Dr. Sturge, Dr. H. Weber (who cited instances of left epileptiform seizures, followed by weakness on the left side and aphasia) and Prof. Baumber of Strasburg, who suggested the term dysphasia to include the various forms of speech-defect following upon the attacks. Dr. Jackson in replying said, that with reference to aphasia and left-sided convulsions, he had always maintained the existence of two conditions in every case of aphasia, and did not believe in any special speech-centre.

### ADDISON'S DISEASE.

The subject of Addison's disease was opened in a paper by Dr. Greenhow, which comprised the relation of a recent case, and a general summary of known clinical and pathological facts concerning this remarkable affection. He pointed out that research must be specially directed to changes in the abdominal sympathetic and the pneumogastric nerve—a case, recorded by Dr. Paget, of lymphadenoma, in which these structures were involved and the suprarenal capsules unaffected, where a deepening pigmentation of the skin was observed during life, giving support to this view.

In the debate which ensued, Dr. Semmola, of Naples, said that at the Brussels Congress he had related a case, diagnosed as Addison's disease, where improvement followed upon electrical treatment, but death occurred some months later, after an attack of acute dyspepsia. No opportunity was given, however, of confirming the diagnosis in this case, which Dr. Semmola had quoted in support of the view he held, that the suprarenal capsules need not necessarily be the seat of disease; and he exhibited a drawing, showing morbid changes in the spinal cord and cœliac ganglia, which he held to be the essential lesions of Addison's disease. A like position was maintained by Dr. Guéneau de Mussy, who had met with a certain number of cases of bronzed skin, without suprarenal disease, but with affection of the abdominal sympathetics, and he adduced in support of this the cutaneous pigmentation of pregnancy, and the occurrence of pigment-moles on the forehead in cases of abdominal tuberculosis, a phenomenon to which he attaches so great significance as to regard it as almost pathognomonic. Dr.

Zucker, of Berlin, spoke of the changes in the urine, and Dr. Gairdner, of Glasgow, of the association of leucoderma with Addison's disease, instancing a noteworthy case which had come under his notice. Sir W. Gull, remarking that he had seen Addison's earliest cases, did well to remind the members of the importance of the asthenia of Addison's disease, and of not laying too much stress upon the pigmentation. He believed the suprarenal capsules were nervous organs, in structure most resembling the pituitary body, so singularly cared for in its special fossa at the base of the skull, the function of which is just as much unknown. He expressed a doubt as to the prognosis being universally unfavorable, and thought that we should have to study those cases which do not die. Dr. Greenhow, in his reply, maintained that Addison's disease commenced in the suprarenal capsules, and that the association of leucoderma was a coincidence, but not a very rare one, with the cutaneous pigmentation.

BRIGHT'S DISEASE.

Several communications were read upon the subject of Bright's disease. Dr. Rosenstein, of Leyden, in his paper, separated, first of all, such conditions of the kidney as are non-inflammatory as being independent affections; and he then discriminated between acute and chronic Bright's disease, anatomically and clinically. The acute form, characterized by emigration of colorless blood-corpuscles, epithelial, and later, interstitial changes, passes very rarely into the chronic form. The chronic form is a diffuse inflammation of all the tissue-elements of the kidney—represented by the "large white," the variegated, "smooth contracted," and the "granular white" kidney; the red granular kidney starting from endarteritic changes in the renal vessels, and to this form the senile contracted kidney is closely allied. Clinical observations can only recognize whether the organ is enlarged or contracted, and it is unable to distinguish between "parenchymatous" and "interstitial" forms. This is a clear statement of the results ensuing upon modern histological research; and had the paper been read in Section III., it would have attracted more attention. But unfortunately, as above said, no discussion ensued in this section upon the subject. Dr. George Johnson contributed a clinical observation on the evidence of white blood-cell casts as indicative of glomerulo-nephritis; and Dr. Grainger Stewart read a paper upon the condition of the urine in Bright's disease, and the clinical value of its examination. Dr. Semmola, of Naples, argued that Bright's disease might be induced by alterations in the albumen of the blood. This paper was followed by a brief communication from Prof. Stolaris, of Amsterdam, who related some experiments showing that the subcutaneous injection of albumen could produce glomerulo-nephritis, an experimental support of Dr. Semmola's view. Dr. Mahomed raised a very important subject, which he entitled "Chronic Bright's Disease without Albuminuria," including an analysis of cases of high arterial pressure producing the cardio-vascular changes characteristic of chronic Bright's disease, with red granular kidneys, but without albuminuria, the number of cases being sixty-one, twenty-one of which were fatal. Dr. Mahomed stated that his views would appear at length in the forthcoming volume of "Guy's Hospital Reports," but it would certainly have been well for the question to have been thoroughly debated in the section, bearing as it does in so important a manner upon clinical observation.

LITHIASIS AND ITS ALLIANCES.

The subject of gout was dealt with under two different aspects, viz., in a paper by Dr. Garrod, upon "Eczema and Albuminuria in Connection with Gout," and in one by Mr. Jonathan Hutchinson, on "Rheumatism, Gout, and Rheumatic Gout." Dr. Garrod's observations included a very large number of cases of undoubted gout, having selected cases in which there had been, at one time or another, arthritic manifestations, and he conclusively proved the very great frequency with which eczema occurred in such subjects, and also renal disease, pointing out the characters of the renal affections. Mr. Hutchinson's paper embraced a wider field: he defined rheumatism as, in the main, a liability to joint-disease, brought about by exposure to cold, and not through reflex nervous influences—a catarrhal arthritis; and gout as, in the main, a liability to joint-disease, brought about by certain articles of food, by defects of assimilation and of excretions—a humoral arthritis. He thus establishes a certain link between the two, viz., the liability to joint-disease; but he was especially careful to point out that, in either, by hereditary transmission, a "gouty" or "rheumatic" diathesis may be formed. In support of his view of an underlying arthritic tendency or condition, he referred to the remarkable frequency of "rheumatic gout," and of the association of deposits of lithate of soda in joints, with lesions of cartilage and bone, hitherto considered as typically rheumatic, and concluded his lucid exposition of the subject by referring to the existence of certain maladies which "are to be affiliated with gout and rheumatic gout as certain forms of iritis, hemorrhagic retinitis, chronic rheumatoid arthritis, some forms of glaucoma, lumbago, sciatica, and neuralgia, novi digitorum, and possibly hæmophilia."

An interesting debate ensued, in which the speakers mostly aimed at showing that there was nothing in common between gout and rheumatism, but they must have missed the point of Mr. Hutchinson's thesis, for in his reply he claimed them as adherents to his cause. Thus, Dr. Garrod thought that the great aim was to differentiate diseases, and not to merge them into one another; that the gouty condition was perfectly distinct and separable from the rheumatic; that gout was almost unknown in Scotland, where rheumatic arthritis was common; that erosion of articular cartilages occurred as a consequence of uratic deposit in chronic gout; and that, although the children of gouty parents suffered from rheumatic arthritis, it was not because there was an interchange of the diathesis, but simply because they were the offspring of debilitated parents. He also believed that gonorrhœal rheumatism had more analogies with pyæmia than with rheumatism. Dr. W. Roberts said that in Manchester cases of gout in hospital practice came mostly from London, which he attributed to the porter-drinking habits of the London poor; and Dr. Quinlan, of Dublin, said that since the people there had taken to drinking porter instead of whisky, gout had become common, whereas previously it was almost unknown. Dr. Stokin, of Amsterdam, said that true gout was very rare in his city; he had seen only two cases, and those in debilitated women, living in unhealthy conditions. Dr. Maclagan, of London, said that true gout was very rare in Scotland, but acute rheumatism and rheumatic arthritis were common—the latter especi-

ally in weakly girls and women. He believed rheumatism to be due to a miasm, and not to the influence of cold and wet; for those most liable to be influenced by cold and wet, the very young and the aged, did not suffer from rheumatism. Dr. Grant, of Montreal, said that gout was hardly known in Canada, whereas rheumatism, arising from insufficient protection against cold, was common. Dr. Ord thought the arthritic changes were common in association with deposits of urate of soda in joints, and would use arthritis as a term common to both gout and rheumatism. In his view, gonorrhœal rheumatism was more allied to rheumatic arthritis than pyæmia—suppuration was not common in it, and similar articular affection accompanied arthritis, prostatitis, etc., not gonorrhœal.

Dr. Duckworth pointed out that the uratic deposits signified gout, and that the hereditary gout occurred apart from dietetic errors. He considered the extensive arthritic changes sometimes seen in gouty joints were very rare, but admitted that sometimes a case appeared to present a coalescence of gout and rheumatism. There was often, however, great difficulty in getting a reliable history of gout. In his reply Mr. Hutchinson not only showed that he granted the hereditary transmission of gout, and that lithates were deposited in the tissues in the disease, but that gout and rheumatism may mingle and often do mingle in the same subject. Indeed, so far as we understand Mr. Hutchinson's position, it is simply this: that there is a tendency to arthritic disease which may partake of the characters of gout or of rheumatism, alone or conjointly, according to the influences to which the subject may be exposed, and that position was not strictly contested in the debate.

### THE ANALYTICAL STUDY OF AUSCULTATION AND PERCUSSION.

Professor Austin Flint's paper on the "Analytical Study of Auscultation and Percussion," which he read on the last day of the session, was one of a very important character, aiming at the simplification of the terminology of physical pulmonary signs, and basing the description of such signs upon the character of the sounds themselves, and independent of the mechanism by which they are produced. He was followed by Dr. Douglas Powell on the value of Bacelli's sign "Pectoriloquie Aphasie" in the differential diagnosis of fluid effusion into the pleura. Dr. Bacelli maintained that in a case of pleuritic effusion, if the whispered voice be well conducted and pectoriloquous, the fluid may be certainly regarded as serous; but, if ill-conducted or inaudible, the fluid will be found to be purulent. Dr. Powell's own observations led him to the conclusion that the sign in question is not pathognomonic, although of considerable value in association with other signs. Sir W. Gull said that Dr. Bacelli's sign is no new thing, and referred to Dr. Addison's observations upon the same sign in 1846; and his own (Sir W. Gull's) explanation of them on the physical ground of tenseness of the membrane and chest-wall. Prof. Ewald, of Berlin, agreed with Dr. Powell, that Bacelli's sign is not reliable, but that the only certain means of diagnosis is by puncture. Prof. D'Espine, of Geneva, also spoke.

Dr. Mahomed urged that the Congress should take action to draw up a single code of terms, but Dr. C. T. Williams pointed out that the difficulty lay in the differences in the instruments employed, and Dr. Flint in his reply echoed Dr. Mahomed's wish that there should be established a general uniformity of terms. On the proposal of Sir W. Gull a committee was formed, consisting of Professor Ewald, Professor D'Espine, Dr. Douglas Powell, Dr. Austin Flint, and Dr. Mahomed, to report to the next Congress. Dr. C. T. Williams then read a paper on the treatment of Phthisis at High Altitudes, drawing especial attention to the increased expansion of the chest following residence at these sites, and attributable to diminished barometric pressure. Dr. Norman Chevers pointed out the bad influence of hot climates on phthisis. Dr. H. Weber, of London, said that it was not a mere question of chest-expansion, but of purity of air, which at high altitudes, such as Davos, does not promote fermentation. Similar effects were produced at Algiers, Madeira, and other aseptic climates. With hereditary influence strongly marked, cases in the first stage even advance at Davos and Colorado. But everywhere general medical supervision and management are essential. Dr. Wilson Fox said that phthisis was due to impure air, bad food, inheritance, and possibly septic causes. Nearly all high altitudes are curative, even in such hot climates as Bloemfontein. The finest shaped chests are liable to tubercular affection. He asked for information as to how long this cure lasts. If phthisis is to be cured by asepticism, then a six months' residence is sufficient; but if desirable to get changes in shape of chest, a longer time must be spent; and he appealed to those at Davos to keep their patients through the summer as well as winter. Dr. Alan Herbert, of Paris, urged physicians to establish the indications for sending patients to Davos, and also contraindications — especially cardio-vascular disease.

Sir W. Gull, in closing the session, said he did so with great regret. There had been one uniform sentiment governing all—viz., a desire to work *pro bono publico*. He thanked the members for the courtesy shown to himself.

### THE TREATMENT OF SCROFULOUS NECK.

We must bring this brief survey of the work of the section to a close, and must be contented to enumerate a few of the chief remaining subjects which were under discussion. Of these one of the most interesting was raised in a paper by Dr. Clifford Allbutt, upon the treatment of scrofulous neck. He contended for early surgical interference to remove the enlarged glands, and thus anticipate the evils of their suppuration or caseation, and the liability to constitutional infection thereby supervening. M. Jules Guérin recapitulated some views on the etiology of typhoid fever he had previously enunciated before the Paris Academy of Medicine, to prove that the disease originates from "fecal intoxication," but, as Sir W. Gull remarked, he did not sufficiently discriminate between the septicæmic effects and the conditions of the febrile process itself. Dr. W. Roberts drew attention to the presence of bacteria in the bladder, giving rise to fermentation of the urine and vesical irritation, a condition removable in a few days by thirty-grain doses of salicylate of soda twice a day. Papers were read also by Prof. Eulenberg, of Greifswald, on Graphic Representations of Tendon Reflex; Dr. D'Espine, of Geneva, on Clinical Cardiography; Dr. Redard, of Paris, on Local Thermometry; Prof. Lépine, of Lyons, on Biliary Secretions in Morbid States; and Prof. Zucker, of Berlin, on the Phosphor Acids of the Urine.

## SECTION ON PATHOLOGY.

### THE NOMENCLATURE OF TUMORS.

After the delivery of the address by Dr. Wilks, already published, the remainder of the first session was occupied in the delivery and discussion of two papers by Dr. Malherbe (Nantes), both treating of tumors. In connection with these papers arose the question of the international nomenclature of tumors, for although there appeared to be a unanimity of opinion on the nature of the tumors of which Dr. Malherbe spoke, the names by which he called them were objected to by some of those who took part in the discussion. Certainly, one great object for the meeting of pathologists of many nations would be gained if an understanding could be arrived at as to the meaning which should be applied to certain of the more doubtful terms employed in the nomenclature of tumors. At present, not only has each nation its own peculiar nomenclature for certain tumors, but, worse still, each school is apt to use the same term in a different signification, and thus the study of oncology is rendered far more difficult than otherwise it would be.

A similar complaint was made on the following morning (Thursday) in reply to a paper on "Tubercle" by Dr. Grancher (Paris); for Dr. Wilson Fox pointed out that since so many doubts had been of late expressed concerning the nature of tubercle, cases which were formerly called cases of tuberculosis, and which probably are still tuberculosis, are now often entered in the registrar's returns as cases of pneumonia or broncho-pneumonia, or the like, by which means the present time will furnish far fewer cases of death from tubercle of the lungs than past times. His suggestion that the term phthisis should be employed for all such cases seems to meet the difficulty. The discussion on Dr. Grancher's paper gradually lapsed into a discussion on the nature of giant cells; and even here the difficulty of adhering strictly to the lines of the debate was clearly shown. For while Mr. Treves spoke only of the giant cells of tubercle, and maintained that they are only masses of coagulated lymph, Dr. Creighton, who followed him, spoke of the giant cells which are formed in the normal placenta, and Prof. Virchow of giant cells wherever they occur.

### MICRO-ORGANISMS AND THEIR RELATION TO DISEASE.

Two whole days devoted to the subject of "Micro-organisms and their Relation to Disease" may seem too large a portion out of a week: yet when one thinks of the importance of the subject, and of the interest it is creating in every region of the scientific world, the time was not at all too long. On Friday, the duty of introducing the debate was intrusted to Professor Lister. He contented himself with delivering a clinical lecture on sympathetic inflammation and counter-irritation. Professor Bastian followed with a very able speech, perhaps a little too pointedly addressed to, or rather against, Mr. Lister, but clear to the point. His contention that micro-organisms may arise by changes in the protoplasm of degenerating or decaying tissues (heterogenesis) was supported by an account of various experiments, and by strong, though possibly not invincible, arguments. By this time the room was very full and very hot, and the debate, which had been waxing warm, speedily assumed a fiery hue; for the next to follow was Professor Pasteur, who, looking very ill, and obliged to sit at the speaker's bar, yet threw a marvellous energy into his speech. Unable to understand our language, he had, he said, begged Mr. Lister to tell him in two words the purport of Professor Bastian's speech. It was, he understood, that micro-organisms may be formed by heterogenesis of the natural tissues. "Mais, mon Dieu," said the 'great father,' banging his fist upon the table, "ce n'est pas possible." "Never, never," he added, pointing his outstretched finger at the unfortunate Dr. Bastian, as if to denounce him, "are these organisms developed, unless from previously existing germs or organisms."

Professor Virchow showed how essential it is that the relation of the various micro-organisms to one another should be discovered. He believed it possible, by "domestication," to change the nature of certain of these organisms, and related recent experiments bearing on this matter. On the following day (Saturday) the subject was resumed from a slightly different aspect by Professor Fokker (Groningen) and Professor Klebs (Prague), the former contending that the forces of micro-organism, and even its capabilities for good or evil, depend upon the conditions in which it exists; the latter reviewing shortly the various organisms and diseases which appear to be associated with one another. Professors Hueter, Pasteur, and Béchamp, and Mr. Watson Cheyne, conducted the discussion to its close. In connection with this subject, the admirable micro-photographs exhibited by the oxy-hydrogen microscope by Dr. Koch must not be forgotten, or his cultivation methods for micro-organisms, demonstrated to a chosen few at King's College. The latter were especially interesting as displaying the advantages of cultivation in solids. In a single potato Dr. Koch was able to show several beds of micro-organisms, each bed containing a separate and apparently pure organism. By thus employing a solid medium, the mingling of organisms, so difficult to prevent in fluids, is rendered almost impossible.

### RENAL DISEASES.

The discussion on renal disease (Monday) was scarcely so interesting as those of the preceding days. Sir William Gull read a short paper, which, however, was rendered long by continual repetition and interpolation. The views of Drs. Gull and Sutton are well known, and those of Dr. Lancereaux (Paris), who read a paper on the same subject, were somewhat in a similar strain; but they failed to draw Dr. George Johnson into the discussion, who contented himself with acknowledging that he had formerly been mistaken in believing that the thickening of the intima of the arterioles was a thickening of all the elastic structures of the inner coat. The second part of this discussion dealt with the histology of the various forms of Bright's disease, but this too failed to elicit any very new or striking facts.

### THE SENSORY AND MOTOR TRACTS OF THE CEREBRAL NERVOUS APPARATUS.

On the last morning the section was thinly attended, partly because none of the great "stars" of the Congress were advertised to attend, partly because the subjects were of such a kind that discussion was practically in the hands of a very few persons; yet some of the work was eminently interesting; for example, the charmingly lucid demonstration by Professor Pierret (Lyons), of the normal relations of the sensory and motor tracts of the cerebral nervous apparatus, and of the manner in which the sensory tract is affected by systematic inflammation. Professor Pierret had already, some

days previously, exhibited a number of excellent sections of the medulla and pons, in which the course of certain of the nerves could easily be traced to their origin in the ganglia. Dr. Dreschfeld also gave an account of what is believed at present to be a unique case of primary lateral sclerosis, actually illustrating in fact what has been regarded by nerve-pathologists as probable in theory. By midday the work of the section was completed.

PATHOLOGICAL SPECIMENS AND DRAWINGS.

The description of a large portion of the contents of the museum properly falls to the lot of this section, for it was largely composed of pathological specimens and drawings. Amongst other things well worthy of note was a life-size wax model of a woman suffering from affection of the articulations in connection with tabes dorsalis, lent by Professor Charcot, and the bones removed from the same patient after death. The model was, indeed, the most attractive object of the museum, for it was admirably executed. Very interesting, too, was a skeleton from the Brighton Hospital of a man who had apparently suffered from rickets and mollities ossium. The various metropolitan hospital museums lent their choicest specimens: wax models of skin disease from Guy's; ostitis deformans from St. Bartholomew's; Sir Astley Cooper's case of ligature of the abdominal aorta, and specimens of skilful mounting and preparation by Mr. Stewart, from St. Thomas's; madura foot from University and St. Bartholomew's. The military and naval hospitals contributed gun-shot wounds of bones and joints; and the Dublin College of Surgeons entrusted to Mr. Abraham's safe-keeping a classical series of cases of Colles' fracture, and a very rare, if not unique, specimen of fracture of the spine of the tibia. In addition, there were numerous tumors in bottles, and casts of tumors, and drawings of tumors; and, lest vegetable pathology should be omitted, Mr. Stephen Paget had furnished a collection of tumors from various trees, the collection on which his father's address to the British Medical Association last year was founded.

## SECTION ON STATE MEDICINE.

FIFTH DAY—MONDAY, AUGUST 8TH.

JOHN SIMON, ESQ., C.B., D.C.L., LL.D., F.R.S., PRESIDENT, IN THE CHAIR.

A paper was read by ERNEST HART, on the

INFLUENCE OF MILK IN SPREADING ZYMOTIC DISEASE.

The speaker gave an abstract of seventy-one recent epidemics due to infected milk. He then said:

The three diseases which have as yet been recognized as capable of being spread by milk, are typhoid fever, scarlatina, and diphtheria. There is nothing in the analogy of epidemics to limit the list permanently to these; and already there are indications of other cognate diseases being spread by the same agency. The number of epidemics of typhoid fever recorded in the abstract as due to milk is 50, of scarlatina 14, and of diphtheria 7. The total number of cases traced to the drinking of infected milk occurring during the epidemics may be reckoned in round numbers as 3,500 of typhoid fever, 800 of scarlatina, and 500 of diphtheria. As regards typhoid fever, the most common way in which the poison has been observed in these epidemics to reach the milk is by the soakage of the specific matter of typhoid excrements into the well-water used for washing the milk-cans and for other dairy purposes, and often, it is to be feared, for the dilution of the milk itself,—for which, in official reports, "washing the milk-cans" has become a convenient euphemism, advisedly employed to avoid raising unpleasant questions.

In twenty-two of the fifty epidemics of typhoid fever recorded, this is distinctly stated by the reporters to be the case, and in other cases it was more or less probable.

When a dairy is unwholesomely or carelessly kept, there is obviously a great variety of ways in which the poison may reach the milk. Numerous instances of this kind were given.

THE VALUE OF QUARANTINE.

The preliminary arrangements and the address occupied so much time, that the commencement of the reading of the papers was postponed till Thursday morning. The first question then brought under the consideration of the section, was the mode of propagation of yellow fever and cholera, and the means best adapted to prevent their diffusion either from one country to another, or within any country. Dr. Billings communicated the results of the experience of late years in the United States. As regards yellow fever, he considered it as a specific disease, capable of communication from person to person, and through the medium of clothing, etc. Inspector-General Lawson, on the contrary, in stating the results of his experience on the West Coast of Africa and in the West Indies, attributed its origin to local causes, and did not believe it capable of transmission by means of clothes or other porous materials. Both views found supporters in the discussion which followed. Dr. Billings was strongly in favor of quarantine, but did not include under that term detention of vessels, on board of which cases had occurred, for a longer period than might be necessary for the thorough cleansing of the vessel and the disinfecting of all articles of clothing; and he suggested the necessity for an international exchange of information when any outbreak of fever or cholera occurred. Attention was called by Dr. Fauvel, of Paris, to the very different climatic conditions of the various countries in which yellow fever occurs, and the consequent necessity for leaving to each country the arrangement of such details as it may consider necessary for the limitation of the disease. A paper was afterward read in abstract by Dr. Christie, on the measures by which to prevent the diffusion of dengue. The author gave an account of several epidemics of this disease, and believed the only mode of prevention to consist in improved sanitary conditions.

PREVENTION OF DIFFUSION OF CONTAGIOUS DISEASES.

The meeting of Friday morning was occupied with the question of the best means of preventing the diffusion of syphilis. Several abstracts of papers on the subject were read, which led to a long, warm, but not very profitable discussion of the principles and operations of the Contagious Diseases Acts. This was going on when the hour for adjournment was reached, and the discussion was closed still unfinished. The afternoon sitting was devoted to the question of home contagia, as manifested by enteric fever, scarlet fever, measles, whooping-cough, diphtheria, etc. Professor de Chaumont read an abstract of an excellent paper on the principles to be observed in attempting to prevent the diffusion of disease, and was followed by an account by Dr. Gil-

bert of an outbreak of typhoid fever in Havre, apparently caused by defective drainage and sewerage arrangements; one by Dr. Stopford Taylor on the importation of infectious diseases into Liverpool, their diffusion, and means of prevention; and an abstract of a paper by Dr. Page on the prevention of the spread of scarlet fever, especially with reference to the period of incubation, the time during which the power of infection probably continues, and when, consequently, isolation ought to be enforced, and the measures of disinfection and purification of persons, houses, and clothing requisite after the occurrence of cases of the disease. The discussion on these important points was postponed, owing to the want of time after the abstracts were read.

THE INFLUENCE OF FOOD ON THE SPREAD OF DISEASE.

On Saturday, the subject under consideration was the influence of various articles of food—not including water—in spreading parasitic, zymotic, tubercular, and other diseases. The probable transmission of tubercular disease to man from animals, through the medium of milk and meat, was brought forward by Dr. Creighton, of Cambridge; the occurrence of an acute specific disease from eating pork infected with a species of bacillus, by Drs. Ballard and Klein; and abstracts on the diffusion of diseases by various articles of food were read by Mr. Hart, Dr. Vacher, and Dr. Hogg, while Dr. Carpenter briefly brought to notice the freedom from disease-producing qualities of food, either animal or vegetable, raised from sewage-irrigated fields. These important subjects gave rise to very little discussion—a result, we fear, of the various more interesting, though perhaps less important, social engagements which had been made for the purpose of giving pleasure to our foreign and country friends.

THE INTERNATIONAL LICENSE TO PRACTICE MEDICINE.

The meeting on Monday was opened with a paper by Dr. Acland, on "International Conditions of Admissibility to Practice," which gave rise to an animated discussion. He submitted that there are conditions under which one civilized country should give to holders of foreign diplomas privileges equal to those conferred on possessors of its own; that these conditions should not necessarily involve a re-examination: that they need not be the same as between a mother-country and her colonies, and that the granting of such privileges by a country need not imply reciprocity on the part of others. There appeared to be nearly a general acceptance of Dr. Acland's proposition that admission to practice should be governed by satisfactory evidence of qualification, professional and moral, altogether independent of any question of reciprocity. Dr. Acland's paper was followed by an abstract of one by Dr. Rabagliati, on "The Precautions to be Taken in Medical Nomenclature and Classification to Guard Against False Statistical Conclusions," but from the very brief period allowed for the reading, and the extremely condensed form of the abstract, it was difficult to ascertain the full bearing of the paper. It elicited some remarks on the necessity for publishing tables of diseases *in extenso*, instead of giving merely classified abstracts.

PREVENTION OF HYDROPHOBIA.

Dr. H. Van Capelle gave an interesting account of the measures adopted in Holland to prevent the diffusion of hydrophobia, with their results, illustrated by maps showing the distribution of fatal cases of the disease among the population of Holland in each year from 1875 to 1880. Dr. Colam, who was fleet-surgeon with the late Arctic Expedition, read a paper on the "Dog-disease or Canine Madness of the Arctic Regions, Viewed in Connection with Hydrophobia, Together with the Measures Used and Suggested for its Extinction." In the discussion which followed, much importance was attached to stamping out the disease by the destruction of all dogs affected as soon as its existence is clearly ascertained. Mr. Dolan, who gave details of the prevalence of rabies in England, and its progressive increase during the last few years, urged the necessity for an efficient Dog Act to enable this formidable disease to be brought under control, a suggestion which appeared to meet with the support of the section.

PREVENTING HOME CONTAGIA.

On Tuesday, after a paper by Dr. M'Cormack, of Belfast, on "Limiting the Force of Contagion and Infection by Holding the Breath whilst in Immediate Contiguity with the Sick," the discussion on home contagia, which had been postponed from Friday, was taken up. Dr. Bloxall gave an account of an outbreak of cholera in the fleet at Malta, which afforded strong evidence of local origin, and both he and Dr. de Chaumont expressed decided opinions of the inadequacy of quarantine to ward off the disease in the absence of proper hygienic measures. As regards the spread of enteric fever, scarlet fever, measles, whooping-cough, and diphtheria, and especially scarlet fever, much importance was attached by various speakers to the registration, or, as Mr. Simon more correctly termed it, the notification of cases of infectious diseases; the establishment of free hospitals for their treatment; the detention of the cases for a sufficient length of time in these hospitals; and the judicious use of disinfectants. Of the latter, heat appeared to be the most relied on for the disinfection of clothing, bedding, and such articles, while fresh air, hot water, and sulphur-fumigation were deemed most efficacious for buildings. The discussion was followed by an abstract of a paper by Dr. Carpenter, on "Sewage Irrigation," which, in the absence of the author, gave rise to very few remarks. At the conclusion of this paper, Dr. Varrintrapp, after a well-merited eulogium on the valuable services which had been rendered by Mr. Simon to sanitary science, not in England only, but over the whole world, proposed a vote of thanks to him for the manner in which he had discharged his duties as President of the Section, and this, with a similar vote to the Secretaries for their valuable and important services, having been unanimously accorded, the proceedings of the department of state medicine were brought to a close.

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## SECTION ON DERMATOLOGY.

FIRST DAY—WEDNESDAY, AUGUST 3D, 1881.

ERASMUS WILSON, ESQ., F.R.S., PRESIDENT, IN THE CHAIR.

PRESIDENT'S ADDRESS.

After welcoming the members, and referring to the relative importance of constitutional as compared with the local treatment of cutaneous affections, THE CHAIRMAN remarked:

"For therapeutical purposes all diseases of the skin

might be assembled, if we except syphilis and diseases proceeding from local causes, under three heads, namely: diseases depending on disorder of digestion and assimilation; diseases depending on disorder of innervation; and diseases of nutrition. As an example of the first kind, we might take eczema, with its multitudinous manifestations. As an example of the second we should have pruritus and prurigo; and, as examples of the third, papilloma and fibrosis. But we cannot fail to recognize the fact, that, practically, there is a greater or less blending of the whole. The pruritus of eczema belongs to disordered innervation; and aberration of nutrition may be accompanied with symptoms which appertain to both the others. Thus, in the lepra of Willan, the psoriasis of modern schools, we have a disease which is due to altered nutrition of the skin from defective organization of that structure. But as the nerve-power or life-power of the skin is insufficient to restrain abnormal function, so capillary congestion constitutes a part of the disease, and the hypertrophous growth of papillæ and excessive production of morbid epidermis must be regarded as a passive nutritive change or passive growth. In ichthyosis, with a starved condition of the skin as far as nutrition is concerned, we have an excessive papillary growth, and excessive accumulation in the shape of altered epidermis. But still more interesting illustrations of abnormal nutrition are evinced by excess or defect of pigment; by the substitution of a lowly for a more highly organized tissue, as in fibrosis, and by the exuberant proliferation of cell-tissue of low organization, which is met with in the instances of tines, of favus, and of epithelioma. If I were called upon to summarize the diseases of the skin such as they exist most commonly in this country, I should begin with eczema, as occurring at all ages and in every condition of life; tinea might follow next as a disorder of childhood; then the acne of youth; and next the so-called acne rosacea of the adult, which latter is actually a form of eczema. The lepra of Willan is not very common, neither is scrofula in its cutaneous forms. Looking to the cause of these diseases, we find mal-assimilation and nerve-irritability, aberration of nutrition and defective nutrition. And, therapeutically, our most reliable remedies are mild purgatives with tonics in the diseases of dyspeptic origin, nutritive tonics, and especially arsenic as a nutritive tonic and in that sense a direct nerve-tonic. What I have now said is intended to open up to the minds of my hearers a picture of the broad field in which we all mutually labor, to point out that many portions of that field admit of independent exploration, and to show that, starting from the line of our existing knowledge, there yet remains very much to investigate—singly, for the perfection of the parts, and collectively for the perfection of the whole. This is the field of dermatological culture and research; and with this brief introduction, I now call you to the work of our section."

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Fracture of Both Femurs in a Child.—Dr. J. F. Jenkins, of Tecumseh, Mich., reports the case of a child, two years old, both of whose femurs were fractured transversely at the middle third, as the result of a fall from a window. Hamilton's double splint was applied, and the result was perfect. There was no difficulty in keeping the parts in position, nor did the child, who was strong and active for his age, rebel against the necessary confinement.

# Medical Items and News.

Contagious Diseases — Weekly Statement. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending August 20, 1881.

| Week Ending | Typhus Fever. | Typhoid Fever. | Scarlet Fever. | Cerebro spinal Meningitis. | Measles. | Diphtheria. | Small-pox. | Yellow Fever. |
|---|---|---|---|---|---|---|---|---|
| Aug. 13, 1881. | 12 | 18 | 95 | 10 | 30 | 99 | 18 | 0 |
| Aug. 20, 1881. | 4 | 20 | 57 | 6 | 24 | 62 | 24 | 0 |

Typhoid Fever and Sewerage.—Dr. A. D. Lake, of Perrysville, N. Y., sends us a report of thirteen cases of typhoid fever occurring in the Thomas Asylum for Orphan Indian Children, and caused by defective sewerage. The sewerage being perfected, the epidemic ceased. Although this is an old story, it needs occasional repetition.

Symptomatic Epilepsy in Uterine Retroversion.—Dr. J. S. Carreau, of this city, relates a case of epilepsy caused by retroversion. The diagnosis of the latter was easily made, and the rectification of the malposition was attended with disappearance of the epilepsy.

Typhoid Eruption Only on Head, Arms, and Breast.—Dr. Blair D. Taylor, Assistant Surgeon U.S.A., communicates an interesting case of death from a severe attack of typhoid fever, in which the eruption, abundant in degree, occurred only on the head, arms, and breast. The duration of the disease was nine days. There was an irregularity in the temperature, that in the morning exceeding that of the evening. The head-symptoms were slight; the intestinal lesions were rapidly developed. At the autopsy the ileum was found intensely congested on its peritoneal surface, presenting livid prominences corresponding with the ulcerated spots inside. Peyer's patches were found very much swollen, indurated, and ulcerated. All the solitary glands were swollen, and the majority ulcerated.

How to Extract the Ball.—Dr. G. P. Hachenberg, of Austin, Texas, writes: "It strikes me, to ascertain positively the location of the ball in the President's body, should it be deeply imbedded, with the least local and constitutional disturbance, is to transfix the point of prominence, where it is supposed to be, with a long acupuncturing needle. Withdraw the needle through a canula, letting that remain to aid in future explorations. For this purpose an attenuated probe, or one with an ivory end, to receive traces from the lead, can be used. Another method to ascertain the presence of the ball is to run a style through the canula, with a screw or scraper at the end; with an instrument of this kind, its location can be demonstrated in different ways. After its position is fixed without a doubt, transfix it firmly with a screw style, which is to serve as a director for its extirpation, and to favor its extraction through the smallest possible opening. Where a counter-opening is indicated, this method of extraction can usually be done with no greater risk than many forms of dissection."

# Original Communications.

## THE CHANGES WHICH SURGERY HAS UNDERGONE DURING THE LAST TEN YEARS.

ADDRESS DELIVERED AT THE FOURTH GENERAL MEETING OF THE LONDON SESSION OF THE INTERNATIONAL MEDICAL CONGRESS, AUGUST 8, 1881.

BY PROFESSOR VOLKMANN,

HALLE, SAXONY.

GENTLEMEN: It is with hesitation, and only in accordance with the wish of my London friends, that I have undertaken to speak before such a distinguished assembly, and to make an attempt to sketch a hasty picture of the changes which surgery has experienced in the last fifteen or even ten years. And I trust that in this attempt I may rely on your special indulgence; for great and unparalleled in the history of medical science have been those changes. Problems thousands of years old have been solved, or are at any rate approaching a definite solution; the desires of our fathers have been fulfilled beyond their hope of expectation. But all our practice and theories have been also fundamentally altered. The position of our science, the position that we ourselves occupy toward invalids, have become entirely different. And this revolution, in the midst of which we still stand, although the first wave has exhausted itself, has been called forth by the *one* incontestable fact, that all those countless and incalculable disturbances by which the wounds, and hence also the life of those operated on or wounded, are threatened, are only the consequences of particular processes of decomposition of the animal fluids, brought about by the intrusion of lower organisms.

For, with the recognition of the manner of their origin, and with the knowledge of their nature, we have also gained the power of preventing these disturbances. Conscious of our aim, we are able so to act as to paralyze the evil influences of these microorganisms. The fate of countless invalids is from henceforth placed in our hands. In the place of blind chance, in the place of fortune or misfortune, which formerly played so great a part in the work of the practical surgeon, there now appear, in quite a different degree, knowledge and ignorance, capability and inability, care and carelessness. But a short time ago the surgeon, when he had, according to the rules of his art, made a wound, was like the husbandman who, when he has sown his field, patiently awaits the harvest, and accepts it as it may turn out, powerlessly exposed to the elements which may bring him rain and sunshine, storm and hail. Now he is the manufacturer from whom we expect good wares. By rescuing from the domain of chance the results of our labors, as far as they depend on operations and the treatment of wounds—and this will always remain the chief and especial work of surgery—the antiseptic method has elevated surgery to the rank of the least experimental science.

But never has a discovery been made in surgery which has even approached this in its benefits to humanity in general. Many thousands of human beings have in the short space of time that has elapsed since then, preserved life and limbs, and been spared pain and a long confinement to a sick-bed; and millions will yet share in these benefits, for the principles of the antiseptic treatment of wounds will *never* again be abandoned so long as the whole of our knowledge is not lost, no matter how our art or the points of attack may change. Perhaps we may some day succeed in treating injured limbs simply in heated or filtered air, or may learn to strengthen the living power of resistance of the tissues and organs so that they can of themselves resist the action of those invisible enemies. The protection afforded by vaccination makes it appear possible that in this, also, new paths are opening out to us.

England may be proud that it was one of her sons whose name is inseparably connected with this the greatest advance that surgery has ever made. Without envy, other nations may yield her the crown; for the long and silent labor which made the ripening of the seed possible, which we now reap so quickly and fully, was quite international; and especially France and Germany took part in it in an equal degree. Nor did any one more fully recognize the importance of those who worked before him than Mr. Joseph Lister.

Otherwise it has happened with the discovery of the antiseptic method, as with so many great discoveries; years, sometimes centuries, prepare them; they are in the air, as it were, until one day, to the surprise of mankind, they suddenly seem to fall down from heaven. Nothing is more instructive than to reflect the light of our present knowledge, or the endeavors of past times, to see how, since the beginning of this century, the most heterogeneous opinions have been held concerning the treatment of wounds: how methods apparently the most opposite have been employed, in all of which we may, however, now recognize a certain value. How wounds were treated with ice, with the cautery iron, with alcohol; how they were ventilated, hermetically closed; how the subcutaneous modes of operation were resorted to without deciding the question why the air coming into contact with the injured tissues of the body in one series of cases caused such deleterious results, in others appeared perfectly harmless; how, seeking without any firm leading principle, experimenting and often abandoning one's self to the rudest empiricism, yet the goal was approached nearer and nearer—so near that we might suppose it was almost possible even then to grasp the truth, and that every one ought to recognize it, and then, when daylight is approaching, and the chief problem has been solved, that then the complete failure of our art is shown by the adoption of the open treatment of wounds.

I consider the direction given by Stromeyer and Pirogoff—especially for gunshot-wounds, and in their time perfectly justified—never to probe a fresh wound, is here carried out to actual nihilism, and to our shame proofs are given that with passive looking on, and the renunciation of quick healing by first intention, with good cicatrizing the results were, on an average, better than in all active methods of treatment practised up to that time. Gentlemen, I wish not to be misunderstood. I do not mean that open treatment of wounds which is at this day employed in the most efficacious manner, in combination with strictly antiseptic measures, where the locality or serious disturbances already caused in the wound do not permit of the usual appliances, or when, finally, after an operation performed with all the means of protection which modern surgery affords us, we may so safely count upon a healing by first intention that further measures seem unnecessary. I will also point out that the German surgeon

who first employed the open treatment of wounds, and gave it its name, and achieved excellent results with it—Burow—introduced in connection with it a remedy which we now know as one of the strongest antiseptics: *i.e.*, the argilla acetica. But I speak of that open treatment of wounds which, rejecting all the attainments of modern surgery, was so emphatically lauded as a special method to be preferred to all other modes of treatment.

Gentlemen, in speaking of the open treatment of wounds, I have touched on the opposition which the new doctrine at first met with on so many sides. You all know well how violent this was. Even in science great changes cannot be brought about without injury to numerous individual interests; but I insist that nowadays no serious opposition exists; that there is no surgeon who would dare, at the operating-table, or in the treatment of the wounded, quite to renounce antiseptic methods; who calmly and with a good conscience would tread the paths in which, fifteen years ago, we all followed like sheep. Even the most obstinate have had to give way to the great principles of the new era, and often in a much higher degree than they acknowledge to themselves or others—the necessity not only of the disinfection of hands, sponges, instruments, and bandages, but also the necessity of a primary disinfection of fresh wounds, is, I believe, universally acknowledged.

In this respect, then, the time that we have lived through stands alone. In a period of a few years a new revolutionizing doctrine, and a new difficult method of treatment, which increases to the utmost the responsibility of the surgeon treating the case, has celebrated its triumph through the whole of the educated world.

I hope you will think it natural if I, in the attempt to sketch the most essential points by which modern surgery differs from that of past times, place in the first rank the immense diminution of mortality after serious operations and severe injuries. It seems natural to prove the advances made in this respect, by comparing the mortality under the old surgery with that of the present day. But in spite of all trouble and labor, the only result of such attempts is the conviction that our present results are incomparably better. How great used to be the average losses caused by important operations and serious injuries we shall never learn. One thing is certain, that they were much greater even than most of the available calculations let them appear. But this second fact is just as certain: that the setting up of average numbers had at that time scarcely any value, because the mortality was subject, at different times, in different hospitals, and under different surgeons, to the most enormous variations, as a glance into the celebrated work of Malgaigne will show. Average numbers can only be of value when the variations take place within certain fixed limits. The high tables of mortality of old surgery have been obtained by the additions of series of cases which differed from one another fivefold or tenfold; and as soon as they were applied by the sick-bed or in the judgment of the results of treatment, they let any result appear satisfactory, and if fatal, excused it.

We may therefore say without exaggeration that the old statistics of surgery were of no use, but only did harm, and we may oppose to their sad, unsatisfactory figures, the simple demand that *no* person should die of an injury unless its severity directly threatens his life, and that no person injured or operated on should perish through a secondary inflammatory disturbance developed from the wound. Every loss of this kind may be traced to some mistake on our part.

But we, who have ourselves groaned beneath the weight of the old surgery, and have now made the new our own, possess comparative statistics that are infinitely more valuable to us than all the numbers that our opponents have held up against us—statistics which we have fought for in the last few years. The time is long enough to have excluded all the old theories of chance. During ten years it is not possible to be always lucky, always to have good cards, as even Pirogoff still ventured to assert of certain privileged surgeons.

And if we compare our former with our present results, we find a difference like that between day and night, the feeling of a great victory after long and severe defeat; and never do I feel more solemnly and gratefully inclined to Providence, who has permitted me to live to see this blessed change, than when I make this comparison.

Professor Nussbaum has drawn this comparison between then and now in his clinic in clear traits, and with manly candor; he has shown that for forty years under his own direction, as well as under that of his predecessors, among whom was Stromeyer, fatal wound-diseases raged, that nearly all patients with complicated fractures died of them, and that even those with the slightest injuries often succumbed to them; that erysipelas and abscess were matters of daily occurrence; that during the latter years hospital gangrene also appeared and attacked the dreadful number of eighty per cent. of all wounds and sores; that he stood helpless and powerless before all these conditions, and that at one step, after the general introduction of the antiseptic method, all this ceased, and instead of that, even after great operations, healing by first intention was introduced as an entirely new result.

I have also tried already at the third German Congress of Surgeons to draw a similar comparison; it is not essentially different from Nussbaum's. Since then a long series of years has elapsed; and in all countries, but perhaps most of all in Germany, a great mass of experience has been collected, and it might perhaps be now possible, by a comparison of large numbers, to discover, with some amount of certainty, what are really the chief questions: How far have we got in the control of accidental wound-diseases? What dependence is to be placed on our present technical aids? Where and how often do they leave us in the lurch? and Where are the limits to our present power placed? Time and place do not permit me to make this attempt, and perhaps it would be beyond my power. But, with your permission, I will lay before you some few data bearing on these questions, and if I take these chiefly from my own experience, you may be convinced that this is only because these are most accessible to me, and because I can myself vouch for their accuracy. For the satisfaction of personal vanity I should probably have chosen another subject than this, which shows what can be achieved by a method in the invention of which I had no share, and should have brought forward other results than those which were achieved by submitting entirely during the first years to the prescriptions of Joseph Lister, and resisting every temptation to do better and more simply than he. Most of the unfavorable judgments passed on this method are due to the fact that surgeons who had not yet learned to experiment with it already made it the subject of their experiments.

Two examples will suffice, compound fractures and major amputations. The mortality after compound fracture had, during the long labors of my predecessor as well as during my own, reached the sad height of forty per cent. When I adopted the antiseptic treatment of wounds, my last twelve patients, with compound fracture of the leg, had all died of pyæmia or septicæmia. From that time up to the present day I have treated, one after another, one hundred and thirty-five compound fractures, and not a single patient has succumbed to either of those accidental wound diseases; one hundred and thirty-three were cured, two died, one of fatty-embolism of the lungs, during the first few hours; and one, a drunkard, of delirium tremens.

For amputation one assertion will almost suffice, which I beg you to regard seriously: I now cure, every year, more cases of amputation of the thigh than during all the rest of my labors before the introduction of the antiseptic method. The number of amputations of the larger limbs which I have undertaken during the last few years amounts to more than four hundred. If I subtract those cases where death did certainly not result in consequence of the operation, but independently of this from some other serious complication, there results a mortality of four to five per cent., and the same number, so far as I can discover from the communications before me, was obtained in the other German hospitals in which antiseptic surgery is practised in full strength.

My friend Dr. Schede has made a calculation which will, I believe, interest you. He has studied the reports of a great number of amputation cases of the old period, so that he was able to distinguish those in which death resulted from pyæmia or septicæmia—those therefore which we now save—and the mortality of the remaining cases also amounted to about five per cent. In these four to five per cents., besides those fatal cases caused by mistakes in treatment, those are also included which in amputations after serious injuries must be laid to the door of the shock caused by the previous serious loss of blood. We may therefore declare that amputation of the larger limbs has been almost absolutely free from danger—at any rate, much less dangerous than many small operations were formerly, whose mortality was never discussed. After extirpation of sebaceous cysts in the head, occasionally one or other of those operated on perished; and a by no means small part came off only with their lives. It is true, I must disguise the fact, that my numbers have been slighted. It has been said that I kept back the unfavorable cases, and thus improved my figures of mortality. Quite lately a French colleague of mine declared that in France it would not be possible to agree to my sort of statistics!

But, gentlemen, what do we want? Do we want to count the amputated limbs like fallen apples, which are picked up from under the trees? Or do we want to gain figures that answer questions which have a practical importance? If we want to know how dangerous *per se* is amputation at the upper part of the thigh, we cannot learn this from the patients who already suffer from severe septicæmia, or who, besides, suffer from severe brain injuries; and if we want to know how dangerous it is to remove the thigh, we cannot make use of cases where both have been amputated. But I will not complicate these statistics in order, as my opponents say, to contrast the most favorable with the most conceivably unfavorable cases. During the time of which I speak, fifty-seven large limbs were amputated—lost according to common parlance—because of acute progressive septic processes, chiefly patients with severe open fractures, wounds of the joints, and laceration of the soft parts, who were brought to us too late from the country, cases of embolic mortification and large putrid abscesses. All patients in whom signs of mortification had shown themselves, not counted. Of these fifty-seven amputated cases, in which, in almost half, the operation concerned the thigh, fully seventy per cent. were cured. A mortality of thirty per cent. is lower than I formerly attained to in cases of primary amputation. It shows best how erroneous are the views of those who contend that antiseptic surgery can only attain results in prophylaxis. Far more rapidly than by means of figures and a survey of successes, we can attain to a comprehension of the enormous advance achieved by modern surgery when we see what is actually done in the domain of operations—what is held permissible, and what is done and risked daily without danger to the patient. For this it is not needful to be a surgeon, not even a doctor, in order to testify to the changes that have come about. Operations are now conducted which fifteen years ago would have been regarded as madness, or as crimes. And often it is the younger doctors who have not had much experience of independent practice who have this advantage over their more venerable colleagues—that they have faith in the infallibility of the antiseptic principle, and have a courage that has not yet been daunted by ill-success; and it is they who venture upon operations of which formerly the most daring surgeons did not think, and attain results concerning which these shake their heads.

But do you think, gentlemen, that one of us older ones could so easily take up the idea of Ogston's operation? For this one must be young, and have grown up in the new thoughts and surroundings, and only know the sad experiences of older surgery as a legend. It is far from me to wish to discuss the value of the operation for the cure of genu valgum. I only wish to show from what one does not shrink. It will always remain of historical interest that, a few years after a great war, in which we were obliged to let the greater number of our wounded die in whom a ball had pierced the knee-joint capsule without hurting the bones; we dared to saw off in the dark within the joint a condyle, leaving blood and sawdust behind. Further, it would be easy to produce numbers of as apparently venturesome operations of which no one doubts the necessity or that they should be permitted.

For a large enchondroma in the costal pleura that occupied the left wall of the thorax, Prof. Fischer removed a large piece of the chest-wall and ribs, so that the heart and lungs were exposed and an opening as large as a child's head was made, and yet the patient was able to be discharged from the hospital after four weeks.

In the case of a large echinococcus of the liver, which in front and at the side was covered with thick layers of liver tissue, and which projected into the thoracic cavity after resection of the seventh rib, I opened the healthy pleural cavity, which was free from adhesions. The thorax was freely open, the thinned diaphragm cut into, the echinococcus sac opened, the animal bladder extracted *in toto*, and the patient recovered without complication. A similar operation, with like results, was conducted by Mr.

Israel, of Berlin. Mr. Hahn, also of Berlin, in two cases of wandering kidney, where the mobility and the discomfort induced thereby had attained an unusually high degree, drew out the organ in question through a large wound in the loin, and sewed it into the same. Both patients recovered and lost their pain. The opening of the joints seems a most innocent performance. Hips and knees are cut open in order, in a case of luxation, to search for the obstacle which opposes itself to reduction, in order to suture the ruptured tissues, and in obscure symptoms to clear up the diagnosis *in vivo* by means of autopsy. More than two hundred times I alone, without in one instance bad results following, have incised, drained, and washed out diseased knee-joints without exciting suppuration.

Bone and marrow tissue will submit to every kind of treatment without putrefying and without suppuration. Orthopædics celebrated their greatest triumphs in the saving and straightening of limbs. We read that Mr. McEwen alone has performed 835 osteotomies, of which 827 were healed without suppuration, and he lost no patient from the operation itself or from its consequences. To facilitate the healing of empyemic cavities, Mr. Schneider resected from six to nine ribs, and even also the clavicle. In very painful cases of syphilitic hyperostosis I myself have repeatedly exposed the tibia in its whole length, and knocked off with a chisel a whole handful of bone shavings. The cure was rapid; the pains disappeared. The old opinion that in cases of strumous suppuration wounds heal less well has been set aside—the largest scrofulous abscesses, even if they come from the spinal column, can be opened not only without danger, but often healed in a brief time through a special kind of first intention. The feat of excision of part of the stomach has excited the whole world, perhaps to excess, since the same operation has been already effected upon the intestines with the happiest results. Weak, paralyzed persons, who usually are anxiously shielded from every injury, have had their main nervous system exposed, to subject it to thorough manipulation.

And now leave the writings and let us realize the teachings of the greatest masters of the first half of this century, of those who were equally great as doctors and as men; for instance, Sir Astley Cooper, whom we may regard as the representative of the highest development of the older surgeons, and you will be convinced that their firm and leading principle, the moral standpoint on which they stood was this, that every operation is dangerous, and should, if possible, be avoided. There is not one of us who, led by B. von Langenbeck, did not stand on the same ground during the great wars of 1866 and 1870. in his treatment of the wounded. Only since 1870 the new views have forcibly made their way.

Cast a glance at the surgical clinics of hospitals, where these are conducted by men who have willingly given up the hardly won results of their own work, and have entirely adopted the knowledge and power of our new art, and here too you will see the greatest changes; cases of operations and wounds without fever and pain, a happy result being regarded as certain; no traces of blood and wound secretions on the bandages, let alone on the body and bed-linen; disappearance of that incessant activity of untrustworthy and senseless assistants, the continuous putting on and taking off of compresses and cataplasms, the regular change of bandages repeated every morning and evening. It would thus appear that in association with anæsthetics and the bloodless method, antiseptic surgery has deprived all important operations of their terrors. Certainly the preparations for an operation are often tedious, the first cleansing and preparation of a fresh wound circumstantial and lengthy, but with the first dressing an immense amount of work has been obviated, which formerly extended over the following weeks and months. The later course, the fate of the wounds of the patient, is as a rule determined and assured by this first dressing; we can often heal an amputation wound with one or two dressings.

Our views on the nature of contagia in the surgical department of hospitals, on their origin and breeding-places, have entirely changed. There is no hospital that is so bad that it can excuse failure in the treatment of wounded and operated patients. If we had no other task in the treatment of our sick but to guard against the purely relative interruptions of the normal process of wound healing, we could be content with the old close and over-filled houses, and the splendid piles we now erect would be superfluous. We well know plague-stricken hospitals where, from wound to wound, from sponge to sponge, from compress to compress, fungous formations in countless generations have grown to the highest degree of adaptation to the fluids and wound secretions of the human body. But it lies in our power to disinfect them. By no ventilation in the world can septicæmia, pyæmia, and erysipelas be blown out of the hospitals; not even by the most assiduous care in ordinary life can they be avoided, but only by the conscientiousness and prudence of the surgeon. If ever the excellent Simpson was right in his assertion that far more operated patients die in hospitals than in private practice, modern surgery may rather declare the contrary. If there is any danger of a mistake in the treatment of a wound, it is more likely to happen in a private house, where it is more difficult to satisfy the accurate demands of modern surgery than in the hospitals.

Gentlemen, weighty circumstances and daily occurrences have always made surgeons as well as laymen recognize the importance of those problems which are solved by the discovery of the mycotic nature of wound diseases. The contrast between open and subcutaneous wounds must have been known as long as men have worked hard and have fought each other with weapons. And not only was this known, that simple fractures are not dangerous and heal without suppuration, but also the experience had been gained that there will be no suppuration, no matter if the individual concerned is young or old, robust or decrepid, scrofulous or syphilitic—whether he has this or that constitutional condition, this or that individual disposition. And this also has long been known, that the danger in a compound fracture is very great, if only on the lower thigh the skin, very poorly supplied by nerves and vessels and scarcely for an inch in area be sharply perforated by one of the fractured ends. But the consequences of these facts were not seen. They were too much opposed to the prevailing doctrine which regarded not only the suppuration, but also the serious disturbances resulting from it, as only *quantitative* increase of the process of reaction following on the injury. The whole of antiphlogistic therapeutics was based on this supposition. And yet the history of fractures might long ago have afforded the most conclusive proofs that it could not be the intensity and extent of the injuries of the tissue which determine the severity of the inflammation and the suppuration that these latter had in reality nothing to do with

the traumatic reaction, but must be some other thing essentially different. For even a good number of simple fractures are by no means such simple things as was formerly imagined, since they often do not occur without serious crushing of the marrow, tearing off of the periosteum, laceration of muscles, fissures, and splinters; certain forms of fracture, especially those of the cervix femoris, and of the spine, are good examples of destruction and crushing of the tissues. And yet even in these cases, suppuration of the greatest intensity does not occur. To attain the conviction that mechanical obnoxious influences, however severe, cannot of themselves produce suppuration, no myologic examination would have been required. The importance of this fact was only revealed to me in its full bearings in examining the wounded on the Bohemian battle-fields. Among the great number of gunshot fractures which I had to treat there, there was a not inconsiderable number of cases where cure resulted after the usual course, as after a subcutaneous fracture without suppuration and without discharge of splinters; and I considered it obvious that here only that explanation was admissible which Stromeyer had given to these cases—namely, that the ball, passing at a tangent, had broken the bone flat, as in the simplest subcutaneous fracture. But of those so successfully cured, two of those who had been injured in the upper part of the thigh died from the results of other wounds inflicted at the same time; and when I examined these supposed bone-fractures, I found to my surprise that just here the most extensive destruction had taken place. In the one case twelve splinters, in the other about twenty, of a size varying from several inches to that of a pea, were caked together by fresh callus without any suppuration or necrosis, and in another similar case there lay firmly enclosed in the callus a little piece of cloth from the uniform.

Then, in the year 1870, Professor Klebs discovered that even in the internal organs, which are considered so vulnerable—as brain, lungs, and spleen—no inflammatory reaction occurs, if the path of the bullet is so long and narrow that it prevents the admission of air; and that even weeks afterward, macroscopically, no changes can be traced in the tissues shot through, while microscopically the process of healing can only be recognized by a minimum of cellular activity.

And now antiseptic experiments, which exclusively belong to Mr. Joseph Lister, to whom I therefore here offer a small part of the gratitude that German surgery owes him, show us that, after an amputation, on the fourth or sixth day the ends hang down in just as limp and unchanged a manner as immediately after the operation, just as if it had been performed on a dead body and not on a living being; that after a great plastic operation, in spite of countless sutures, no trace of œdema or reddening and no pain occur. India-rubber tubes passed through dropsical joints may remain lying there for weeks without causing suppuration, and they may, slipped unnoticed into the cavity, heal so firmly into the armpit that a year after they may be mistaken for well-defined cancer tubercles, and be extirpated. Into the open peritoneal cavity a piece of gauze, larger than a table napkin, and pressed together like a handkerchief, can be put, and remain for several days without fever or clinical appearances of fever resulting. And I should like to mention one more experiment, which, it is true, will not always succeed. Suppose we have a case of limited fistulous caries of the foot before us; five or six times we introduce the glowing Pacquelin cautery iron to the depth of an inch and a half, and carbonize the dissected tissues. Then we cut the skin in a circle round the former fistula at a breadth of two lines, and let the blood, mixed with a disinfecting fluid, flow into the deep spherical cavity, fill it out, and coagulate. In a fortnight or three weeks the upper layer of the coagulum scales off, and the burn is cicatrized without any reaction, suppuration, or falling off of the scab. So that in man also Professor Hueter's five experiments on animals are confirmed.

After such facts, there can be no further doubt that we have hitherto studied traumatic reaction of open wounds on tissues infected at the same time that the four cardinal symptoms of inflammation—robor, calor, tumor, dolor, even in the severest open wounds—are not developed when disturbing agencies have no access, or do not find soil fitted for their development.

Seriously, we have now to consider the question whether mechanical irritations, such as the surgeon's knife and saw cause, and the injuries of the social life, are at all capable of alone bringing about those processes which have at all times been designated as inflammatory.

I do not consider the latter question as yet fit for decision, although the extreme radicals already advance weighty reasons to refuse even to thermic and chemical irritants the power of causing inflammation; so long as in the erythema of burns and the dermatitis from iodine painting, associated with abundant exudation of leucocytes, the influence of organic germs is not proved, and so long as the same proof is wanting for carbolic erythema, I believe that we ought at any rate to wait for results of further investigations.

Gentlemen, I have touched on traumatic reaction of the tissues to show how distinctly modern times have influenced even the oldest dogmas of our science; how we are obliged to abandon almost everything that our schools have taught us in order to gain for our scientific opinions a newer, firmer foundation.

I am coming to an end. I have already occupied your attention for a longer time than may appear fitting to some of you. I have spoken of the advances in surgery. There is one I have not yet mentioned. It has never hitherto been so deeply and universally realized that the interests of our practice must coincide entirely with those of our patients; never before was the feeling of responsibility for our actions so great as at the present day. The breach which divides us from the older surgeons is immense here. We do not refuse to let our capability be entirely measured by our successes. For even if the surgeon of former times willingly submitted to this measure, when it was only a subcutaneous fracture without essential displacement or the straightening of a club-foot that was to be dealt with, yet, as soon as it was a matter of preserving life after an operation, or even of preventing serious disturbances, he might decidedly reject this standard. No surgeon, however learned and skilful he might be, would have been willing then to promise or guarantee, or in case of ill-success to reproach himself; he is almost certain in this important point to have, like every other surgeon, the sad privilege of not being responsible for uncontrollable circumstances.

To-day we may say, with the deepest conviction, that the surgeon is responsible for every disturbance that occurs in a wound; that it is his fault if even

the slightest reaction or redness is developed in it, or if an amputation is not healed by first intention. He must reproach himself severely if after an operation bagging of pus occurs, and especially if death occurs from pyæmia. He who cannot attain to this degree of perfection may be converted from his former method of treatment to antiseptic methods like one who having hitherto always prescribed senega for catarrh, now uses ipecacuanha. Of the storm that has swept over the fields of surgery during the past ten years he has not experienced a breath.

Justice requires us to recognize that the higher moral aspect of this question has come to us from England. It was the English ovariotomists, with Mr. Spencer Wells at their head, who first showed us how to approach an operation at that time looked on as fatal, how to take on one's self the whole responsibility of success or failure, and to keep no other goal in view than this one, to save the patient, and, by a constantly improving and perfecting of our art and carefully keeping everything injurious at a distance, gradually to become more and more master of one's actions. At that time we began to recognize that at the operating-table there are other matters of importance than to shine by quickness, elegance, and security in the use of the knife.

Yes, gentlemen, our labors have become more blessed and more joyful. We know that a great responsibility rests upon us, but we also know that with honest will, knowledge of our subject, and use of all our powers, we are able to satisfy its demands. And because we believe that this feeling of responsibility is living and constantly increasing in the younger generation, we trust that surgery will overcome the dangers that doubtless lie in the rapid changes it has experienced, and is being led toward a further development.

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Statistics of Registration.—Dr. S. A. Hills, of this city, sends us the following statistics, compiled from the recently published list of registered physicians: Of the number registered, between twenty-three and twenty-four hundred, the graduation is as follows: College of Physicians, New York, 554; College of the University of New York, 424; Bellevue Medical College, New York, 250; Medical College of New York, 7; New York Medical College, 47; Medical Society of New York (this includes county and State), 31; New York Medical College for Women and Infirm, 69; Homœopathic Medical College of New York, and other like schools, 119; Eclectic Medical Colleges in New York and elsewhere, males, 104; females, 17—121; New York Medical College for Women, 6; female physicians, total, 101; from colleges in New York outside of city, 78; New England medical colleges, 100; Central and Western States (except New York City), 134; Southern States, 62. Abroad—Berlin, 23; Vienna, 17; Würzburg, 25; Munich, 8; Gissen, 8; Paris, 17; England and Ireland, 33; German States and Central Europe, 164. One or more from such sources as the following: Commissioned by Governor Seymour, 1; by authority of the United States, 1; German Government, 1; Botanic Medical College, Ohio, 1; State Board of Health of the free town of Frankfort-on-the-Main, 1; Russia, 3; Italy, 5; Commission of Prussian army, 1; Baltimore College of Dental Surgery, 1; Licensed by copyright granted by the laws of the United States, 1; and others.

# International Medical Congress.

*Held in London, England, August 3 to 9, 1881.*

(Special Report for The Medical Record.)

## MEETINGS OF THE SECTIONS.

### SECTION ON DISEASES OF THE THROAT.

The first paper read was one of great interest to all laryngologists, as in it Signor Manuel Garcia detailed how it came to pass that he invented the laryngoscope.

Dr. Vivian Poore's case of web in the larynx, probably congenital, excited considerable interest, the general opinion being that, though these cases were not necessarily congenital, the one before the meeting certainly was.

Dr. Rumbold's (St. Louis) paper went to prove that the spray-producer was the only plan which removed morbid secretions from the affected surfaces without causing the least irritation.

#### THE TREATMENT OF DIPHTHERIA.

In opening the discussion on diphtheria, Dr. Morell Mackenzie stated that, so far as local treatment was concerned, he placed his sole reliance on varnishes—*i.e.*, remedies which exclude the air from the false membrane—tolu dissolved in ether being the most serviceable. There was an almost complete unanimity against the forcible removal of false membranes or the cauterization of the affected surface. Ice in the early stages, steam inhalations, with or without antiseptics, in the later stages, were generally recommended. Lactic acid and lime-water were praised as being the best solvents, and boracic acid as an antiseptic. In opposition to the views generally held, Dr. Meyer brought forward for Dr. Nix, a Danish medical practitioner, his plan of treatment, which consisted in scraping away the false membrane and cauterizing the scraped surface with solid nitrate of silver.

Dr. Lennox Browne recommended the removal of enlarged tonsils, even during an attack of diphtheria, if they offered any impediment to respiration. In the discussion on the "Pathology of Laryngeal Phthisis," there was great difference of opinion both as to the early recognition of the disease and its diagnosis from syphilitic ulceration. Professor Krishaber, of Paris, considered the diagnosis of tuberculous laryngitis during the patient's life very easy, whereas Professor Rossbach, of Würzburg, was of opinion that certain diagnosis of laryngeal consumption was only possible if pulmonary consumption be simultaneously present, otherwise tubercular and syphilitic ulceration can only be distinguished from each other by their different behavior to iodine. On the other hand, Dr. Fränkel, of Berlin, said that the treatment by iodide of potassium would not differentiate it from syphilis, as tuberculous ulceration sometimes heals under the iodide. As regards prognosis, the view of the laryngologists who spoke was more hopeful than that generally held by physicians. Professors Gerhardt and Rossbach (both of Würzburg), asserting their belief in the absolute curability of the disease.

#### THE MOTOR NEUROSES OF LARYNX.

The discussion on the motor neuroses of the larynx centred chiefly on the clinically and anatomically proven fact of the proclivity of the abductor

fibres of the recurrent nerve to disease, both central and peripheral. Professor Gerhardt, who introduced the subject, was opposed, in the present state of our knowledge, to any premature hypothesis to explain this curious fact. The papers introducing the discussion on "Neuroses of Sensation of the Pharynx and Larynx" were very opposite in character, that of Professor Schnitzler, of Vienna, being a short, practical one, whereas the one sent in by Professor Elsberg, of New York, and read (in part) by Dr. Morell Mackenzie, was very elaborate.

THE FORMATION OF MUCUS IN THE LARYNX AND TRACHEA.

In discussing the formation of mucus in larynx and trachea, Professor Rossbach pointed out that the secretion was independent of central nerve influence. Dr. Fränkel drew attention to the fact that the conditions in the trachea on which the author had based his statement were different from those in the nose and pharynx. Dr. Bayer, of Brussels, in his paper on "Influence of Female Genital Organs upon Organ and Formation of Voice," detailed all the possible consequences of this connection. Drs. E. Fränkel and Semon insisted that the prognosis in these cases ought to be guarded, as even when apparently dependent upon uterine disease, the cure of this latter was not necessarily followed by the cure of the laryngeal trouble. The discussion on "Indications for Extra or Intra-Laryngeal Treatment of Growths in the Larynx," which was opened by Dr. Fauvel, of Paris, and Professor Burow, of Königsberg, affirmed the statement of the latter, that only when an experienced laryngologist has established the inexpediency of the intra-laryngeal treatment may the extra-laryngeal method be adopted; the only marked exception being in favor of thyrotomy in certain cases. Dr. Solis Cohen, of Philadelphia, and Professor Lefferts, of New York, were, however, rather more in favor of the extra-laryngeal mode than their German *confrères*, but even they limited it to exceptional cases. There was a general agreement with Dr. Semon that of necessity the removal of intra-laryngeal growths must remain in the hands of laryngologists who had devoted special attention to the subject.

REMOVAL OF LARYNGEAL GROWTHS.

Professor Krishaber pointed out that in children the removal of laryngeal growths may be accomplished with comparative ease, by guiding the forceps into the larynx by means of the forefinger, and seizing the growth without the aid of the mirror.

Dr. Hering's (Warsaw) paper on "Results of the Mechanical Treatment of Laryngeal Stenosis" was based upon statistics of all hitherto recorded cases, one hundred in number. He attributed the want of success reported as not due to the insufficiency of the method, but evidently to want of patience on the part of the patient or surgeon, or to the non-adaptability of the plan of treatment to the particular case. This view was agreed to by all who took part in the discussion.

The discussion on "Indications for the Complete or Partial Extirpation of the Larynx," which was opened by Dr. Foulis, of Glasgow, revealed a great difference of opinion between the surgeons and the laryngologists, the former being disposed to include a larger number of cases among those suitable for the operation than the latter. Professor Czerny, of Heidelburg, to whose careful experiments we are indebted for this operation, was present and spoke on the question.

Professor Voltolini, of Breslau, the oldest advocate of the method, introduced the discussion on the "Galvano-Caustic Method in Nose, Pharynx, and Larynx." The general opinion was in favor of this plan in the nose and pharynx; in the larynx its utility was more doubtful. Some of the speakers, notably Dr. Foulis, dwelt on the advantages of the actual cautery.

PATHOLOGY AND TREATMENT OF NASAL CATARRH.

In his paper on the "Pathology of Nasal Catarrh," Dr. Bosworth, of New York, asserted that rhinitis atrophica was a primary affection, and not a secondary stage of the hypertrophic variety.

The subject of "Adenoid Vegetations in the Vault of the Pharynx" was introduced in an exceedingly able paper by Dr. Meyer (Copenhagen), to whom the credit of having first directed attention to these growths must be assigned. His statements were supported by Dr. Lowenberg (Paris) in his introductory paper. Both remarked on the frequency with which this affection is overlooked, and dwelt on the importance of drawing more attention to it, as it is so frequently the cause of ear troubles, nasal voice, and nasal respiration, and even affections of the conjunctiva. These growths are almost exclusively met with in childhood and youth, hardly ever occurring after the age of twenty-five. As regards treatment, very different methods were suggested, the most remarkable of which were those brought forward by Drs. Meyer, Lowenberg, and Guye.

The discussion on the "Nature and Treatment of Ozæna" elicited a great difference of opinion. Dr. Krause's view that the fetor, which is such a prominent feature in these cases, was due to the formation of fat and the decomposition of fatty acids, did not find any supporters. For the palliation of this disease, which all agreed was not curable in the strict sense of the word, syringing after Michel's plan and the use of Gottstein's tampon were recommended.

The demonstration of patients, instruments, etc., for the Sub-section of Diseases of the Throat took place at the Hospital for Diseases of the Throat and Chest, Golden square, and was very numerously attended.

Dr. F. Semon showed an interesting series of five cases of bilateral paralysis of the abductus, on one of whom he had to perform tracheotomy for the relief of impending death from asphyxia, and one case of anchylosis of the crico-arytenoid joint.

Dr. Poore exhibited a patient with a web in the larynx, probably congenital.

Professor Krishaber brought for inspection a set of tracheotomy tubes; he stated that there is a definite relation between the height of the body and the diameter of the trachea, consequently the size of the tracheotomy canula should be adapted to the patient's height.

Dr. Foulis showed an apparatus for heating the actual cautery, also instruments for removing larynx, artificial larynges, and two larynges he had removed.

Dr. Cresswell Baber exhibited a self-retaining nasal speculum, and a snare which could be fixed at any angle.

Dr. Michel demonstrated his method of removing adenoid vegetation by means of the galvano-caustic loop.

Dr. Fränkel exhibited a mouth dilator, a modification of Whitehead's, with the addition of a palate hook. This may be regarded as one of the most valuable of the instruments exhibited. He also

showed a prism for inspection of the cavities of the body.

Dr. Morell Mackenzie sent a patient on whom he had performed internal œsophagotomy, and a case of spasm of the tensors of the cords, and showed his œsophagoscope. Störch's œsophagoscope was also shown.

TREATMENT OF SYPHILITIC STENOSIS OF PHARYNX.

Dr. Whistler exhibited a patient with syphilitic stenosis of the pharynx, in whom he had established a communication between the pharynx and posterior nares. Dr. Cadier exhibited his tube laryngoscope, a most inconvenient and unpractical instrument. Dr. Tornwaldt showed a tampon filled with water for the dilatation of laryngeal stenosis. Dr. Bosworth brought forward his mode of removing polypi, insisting on the advantage of using No. 5 steel piano-wire. Dr. Rumbold showed his spray producers; Mr. Spencer Watson a self-retaining nasal speculum and other instruments for the treatment of diseases of the nose, and Dr. Prosser James a series of laryngeal lancets and probes, each being forged out of one piece of solid steel.

On Monday afternoon a supplementary demonstration of instruments, etc., took place. Professor Voltolini showed his battery and demonstrated an ingenious mode of removing needles and other articles of iron from the larnyx by fixing them by means of a powerful magnet, and then introducing a knitting-needle, to which they attach themselves. Professor Caselli showed his galvano-caustic tracheotome, Dr. Meyer exhibited the instrument he employs in the removal of adenoid vegetations, and Dr. Böcher an improved form of lamp for laryngological and other purposes. Dr. Goodwillie demonstrated the use of a surgical engine for the removal of exostoses, etc.

## SECTION ON MENTAL DISEASES.

THE CARE OF THE INSANE.

In the discussion on the paper of the President, Dr. Lockhardt Robertson, the consensus of opinion pointed to the necessity for a greater use of the county asylums for the purpose of instruction; that in this way only could opportunities be afforded to every student to enable each to obtain such an acquaintance with insanity as would prepare him to answer a question on this subject at his examination by the licensing bodies; and that a special course of study should be demanded of all medical men who were empowered to sign certificates of insanity.

TESTAMENTARY INCAPACITY.

Dr. Bucknill, in his paper on "Testamentary Incapacity," specially discussed the recent decision in Banks *v.* Goodfellow, wherein the Court of Queen's Bench found a person capable of making a will who was admittedly the subject of delusions of suspicion and persecution.

Dr. Maudsley pointed out that this was a sequence of similar American decisions, and commended the recognition of the ability of some cases of hallucinatory insanity to execute a will. In this opinion he was supported by Drs. Wood and Orange.

Dr. Motet, of Paris, alluded to the difficulty of deciding this question in cases of coarse brain disease with mental enfeeblement, and Dr. Bucknill quoted the case of a patient in a private asylum who had lately, under his advice, executed a will with appropriate legal precautions.

HYPNOTISM.

The subject of hypnotism was introduced by Professor Tamburini, who has without doubt taken the truly scientific method of examining, in the most exhaustive manner, the condition of the circulation, respiration, and muscular irritability, as well as the reactions of the senses during the hypnotic state. By this method only can deception and imposition be eliminated from this matter and the subject brought to have a definite scientific value.

Dr. A. Foville, in an interesting paper on Megalomania, established two forms of exalted delusion: the first fleeting, inconsistent, and generalized, occurring in general paralysis, transiently in mania, in organic brain disease, and in alcoholism, in all these conditions being probably related to hyperæmia of the cortex of the brain. The second variety is systematic and permanent, chronic in evolution and incurable; usually associated with hallucinations, with delusions of persecution, and exalted change of personality, and being especially associated with illegitimacy.

CEREBRAL LOCALIZATION AND HALLUCINATIONS.

Professor Tamburini, in his paper entitled "Cerebral Localization and Hallucinations," stated that Panizza, in 1856, recognized the existence of a sensory centre (of sight) in the cortex cerebri, but that the full development of the discovery was due to Ferrier. He endeavored to prove that hallucinations are caused by disease of the sensory cortical centres.

Dr. Ferrier, in alluding to the distinct regions of special sense in the cortex cerebri, proved by his experiments before the present Congress, suggested that hallucinations should be regarded as sensory convulsions, analogous to those occurring in motor centres.

Dr. Alexander Robertson, in his communication on unilateral hallucinations, relegated their origin to the sensory centres, which, however, he did not at present consider to be satisfactorily mapped out.

Dr. Fournier attempted to prove that hallucinations differed only from ordinary acts of memory in being involuntarily and unconsciously originated. An abnormal stimulus thus arising in the cortex was transmitted to the optic thalami, and by reawaking of the activity of these organs gave rise to a false impression.

This theory met with very general opposition.

Dr. Fournier suggested the classification of hallucinations into those connected with: (1) The sensations of organic life; (2) the sensations connected with reproduction; (3) the sensations of the special senses; (4) the sensations produced by the voluntary activity of our organs, as by speech.

Dr. Motet's paper on "Moral Traumatism in the Alcoholic" had a medico-legal as well as a clinical interest in directing attention to the possible development of transient mania (not of the type of delirium tremens, but more nearly resembling the maniacal outbreaks after epilepsy) as a result of mental shock in a person of alcoholic habits.

Mental stupor was discussed in a valuable paper from Dr. Hack Tuke. He described three cases in which this condition was associated with catalepsy, and expressed the opinion that on a close examination most of these cases would be found to be due to melancholic absorption, and that in comparatively few was the mind an utter blank. He proposed to

abolish the use of the term "acute dementia," using the term "mental stupor" instead, and adding the words "with melancholia" when this was associated.

Dr. Foville alluded to the fact that the term "acute dementia" was no longer used in France, and that only one condition was recognized. On the other hand, it was urged that there was a distinct difference between anergic stupor and stupor with melancholia, although in some cases the distinction was difficult, owing to the conditions closely approximating in the later stages of disorder.

EPILEPSY

was the subject of a demonstration by Dr. Lasègue, who described true epilepsy as being due to malformation of the skull, either idiopathic or traumatic; all other forms as being spurious or epileptoid, *i. e.*, those due to cerebral traumatism, organic lesion, and toxic or hysteric conditions. The true epilepsy (excluding the traumatic), dependent on malformation of the skull, follows only on its ossification, and invariably develops between the age of fourteen and eighteen years. The head is found on examination and measurement to be asymmetrical either laterally or antero-posteriorly, and this is accompanied by asymmetry of the face, the mouth especially being askew (strabismus buccalis). This form is never hereditary, nor is it transmissible to offspring. The first attack of epilepsy is identical in character with all succeeding attacks, therein differing markedly from the epileptoid forms. The attacks of epilepsy occur between 4 and 7 A.M., during the passage from the sleeping to the waking state. These patients are epileptics in everything. Dr. Motet stated that Dr. Lasègue's views were generally accepted in Paris, but no discussion in confirmation or opposition followed.

INSANITY AND ITS RELATION TO OTHER DISEASES.

Satisfaction must be expressed that the relation of insanity to other diseases would appear to be specially attracting the attention of alienist physicians. The relations of insanity to paralysis agitans was treated of by Dr. Ball, to exophthalmic goitre by Dr. Savage, and to gout by Dr. Rayner.

From Dr. Ball's paper and the discussion thereon, in which several additional cases were quoted, the conclusion may be drawn that insanity with paralysis agitans is more common than the limited number of recorded cases would appear to indicate; Dr. Mercier expressing the opinion that the mental defect, being negative, was often overlooked.

Exophthalmic goitre was associated with insanity in three cases reported by Dr. Savage, who draws attention to the fact that symptoms of this disease may occur in general paralysis of the insane, and gave a case in which this diseased state recurred during attacks of mental disorder, being absent in the intervals, this case being markedly improved by hyoscyamine.

Dr. Rayner quoted cases of insanity from retrocedent and latent gout, with others in which it was only an associated cause. The importance of the recognition of its presence with regard to prognosis and treatment was dwelt on, and a parallel drawn with the insanity resulting from lead and alcoholic blood-poisoning.

NERVOUS TISSUES SPOILED BY METHODS OF PATHOLOGICAL PREPARATION.

Dr. Savage has rendered good service to pathology in drawing attention to changes produced in nervous tissues prepared for microscopic section by hardening in spirit. These changes, he showed, are not to be distinguished from the so-called miliary degeneration. He also exhibited microscopic sections containing colloid and amyloid bodies, which were probably due to the mode of preparation. Dr. Benedikt expressed the opinion that the miliary bodies were normal, and not pathological. Dr. Holler, of Vienna, communicated a paper on a "Method of Preparing Large Sections of Human Brains," of which he exhibited specimens. The process is a development of Sankey's method, large slices being stained in carmine-ammonia, placed in Canada balsam, dried on object-glasses, and pared with tenotomy knives to the required thinness. These sections would be useful for anatomical purposes, but for histological and pathological observation it may be objected that they do not take a uniform plane.

THE BRAINS OF CRIMINALS.

Dr. Benedikt exhibited a series of fifty brains of criminals, in which he discovered, as a marked characteristic, a general coalescence of the typical fissures. This deviation from the normal type he termed "atypic," the same condition being present in hereditary insanity, epilepsy, and other low types of the human brain. Dr. Shuttleworth gave an interesting *résumé* of the cranial characteristics of idiocy, and Dr. Fletcher Beach exhibited brains of cretinoid and microcephalic cases, pointing out the close relation between the mental characteristics and the development of the convolutions. He quoted the observation he had made in common with Dr. Hilton Fagge in cretinoid idiocy that the thyroid body was absent and was apparently supplemented by fatty growths in the posterior triangles of the neck. His microscopical sections showed the defect of processes in the motor-cells of the brains of idiots.

## SECTION ON OPHTHALMOLOGY.

MR. BOWMAN, the President of the Section, began by referring to the great advances in ophthalmology since the time when the International Congress of Ophthalmology met in London in 1872. The isolation in which ophthalmology then stood had disappeared, and it now formed a fundamental part of medical science.

The speaker then took up the different subjects upon which papers were to be read during the ensuing session. Referring to the subject of antiseptic surgery, which was first to be discussed, he said:

"In the case of the organ of sight, specially constituted, and in some respects screened from injury as it unquestionably is, there are reasons why the application of precautionary antiseptic measures, though the principle of them must still assert itself, should take a somewhat special form. Owing to the local structural conditions they may apparently be often more simple, though the possible need of the more elaborate of them should never be allowed to fall out of view."

The other topics to be discussed were then alluded to and the special points which it was desirable to bring out were mentioned. Taking up the subject of color-blindness, the speaker said:

The precision of our modern methods of determining the accuracy of sight and of the sense of color has at length made it possible to urge with increasing earnestness, on authorities responsible for the lives of travellers, whether by land or sea, the necessity of enforcing adequate test examinations, not only on candidates before engagement, but subse-

quently at stated intervals, on all persons employed where good sight is an essential qualification.

"If this be important in regard to railway drivers, guards, and signal men, it is even far more so in the maritime service. On land each government is in a very direct manner held responsible to its own citizens, and accordingly much has been done of late years in several countries, though effectually I fear in very few, to institute strict periodical examinations under State authorization and control. As to these, perhaps, a very close uniformity through different countries is not so very necessary, however desirable. But it is matter of common and urgent concern to all nations that on the open seas, on coasts, and in harbors a uniform system should prevail as to the due and sufficient and periodical testing of the sight of those who may be in the position either to give or to observe signals, on the prompt discrimination of which a multitude of precious lives may at any moment depend.

"And I trust it may not be very long ere such a uniform system of tests as science can now supply, and also the obligation to put them in force among their own subjects, will be willingly accepted by all civilized states."

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## SECTION ON DISEASES OF CHILDREN.

A paper was read by W. B. CHEADLE, M.D., on

THE EXISTENCE OF TWO DISTINCT FORMS OF ERUPTIVE FEVER USUALLY INCLUDED UNDER THE HEAD OF MEASLES, AND THE RELATION TO DISEASE OF SO-CALLED RUBEOLA, RÖTHELN, OR GERMAN MEASLES.

The author held that the rule that one attack of a contagious exanthem confers upon the individuals who experience it immunity from any further attack of the same disease, has been found to hold good with regard to measles as generally as in the case of scarlatina or small-pox.

Yet in two recent epidemics, both of them of severe and pronounced type, which followed one another in the same district within the year, it was found that the individuals who suffered in the first epidemic obtained no immunity from the second; and, further, that no previous attacks whatever of ordinary measles exercised any protective power against the second epidemic. Of thirty cases of this second epidemic in which absolutely reliable histories could be obtained, twenty-two of the patients had had measles before, and ten of these, under the author's personal observation, within the year.

Certain deviations from the common type, such as a shorter period of incubation, severe laryngeal symptoms, and other special features, taken together with the fact that previous attacks of ordinary measles conferred no protection, proved the disease of the second epidemic to be an essentially distinct exanthem. The question then arises whether it was a new and unrecognized form of eruptive fever, or the only other known form of measles, rötheln. The exceptionally severe and even malignant character of the disease at the outset would seem to negative the idea of rötheln, which is always described as a disease of an invariably mild type. But after weighing all the facts, the conclusion was arrived at that the disease was rötheln, which prevails not only in the slight form which is acknowledged, but in a severe and malignant form also, hitherto not recognized as rötheln, but erroneously described as an exceptionally severe variety of common measles.

## SECTION ON MILITARY SURGERY AND MEDICINE.

The speaker, PROF. T. LONGMORE, acknowledged the honor conferred upon him by his election as President, and welcomed the many foreign friends who were present. He referred to the fact that this was the first time in which a special section had been devoted to military surgery at the meetings of the International Medical Congress. The necessity of a special study of this subject was apparent, in view of the fact that military service so often called for great modifications in the management of medical and surgical cases.

The most urgent question for discussion was, he said, the manner in which the antiseptic treatment of wounds can be carried out in times of war. This question, more or less, covers and influences many of the other subjects put down for consideration, such as the advance of conservative surgery in field-practice, the treatment of injuries of blood-vessels in the field, improvements in field-hospital equipment, and several others. The experience that has hitherto been gained in the strict application of antiseptic principles to the treatment of wounds in the field, has been obtained only under exceptional circumstances, and is, comparatively speaking, still exceedingly limited; but, such as it has been, the published results have been so largely superior, both as regards saving life and also as regards the restoration of the usefulness of wounded parts, to the published results of any other methods of treatment in the field, that, so long as the difference holds its ground, we are morally bound to try and extend the practice.

The speaker then gave a description of the system by which help is arranged to be afforded to the wounded among troops on active service, according to the existing regulations of the British service.

The plan adopted for accomplishing the various objects of a

MILITARY MEDICAL SERVICE

may be conveniently divided into two parts, viz.: 1st, that for the medical service from the base of operations to the area of active operations of the army in the field; and, 2d, that for the medical service with the army itself. The hospital establishments belonging to these two divisions of the medical service were shown separately in two diagrams. They are, in a great measure, independent of each other, although connected and working in concert; and they differ in their qualities, administration, and in many articles of their equipment, although the officers and men of the army medical department serving in them are interchangeable. The establishments at the base of military operations and along the lines of communication with the army have more or less of a stationary character, while the others are organized for being as movable as the troops which they accompany.

The insular position of our country leads to complications in the medical preparations for war from which continental nations are for the most part free. Wherever a British army may be despatched for hostile purposes, whether it be on part of a coast belonging to a friendly ally, or whether it be a position secured by force from a hostile power, the establishment of a new hospital in the place is one of the first necessities experienced. This will form the base hospital. As soon as the army quits its rendezvous, new temporary hospitals become necessary. These are known as *stationary* field-hospitals, or intermediate hospitals. In front of

these, and still nearer the line of march, are the *movable* field-hospitals. Between these latter two establishments are the "advanced depots." Here a supply of medical and surgical supplies and appliances is stored, ready for issue to meet wants in the bearer companies and movable field-hospitals. This is the station, too, to which the sick and wounded are brought from the field by the bearer-company's ambulance wagons, and from which they are forwarded by vehicles obtained by the commissariat department to the stationary hospitals along the lines of communication with the base.

These comprehend the establishments between the area of active military operations in the field and the base. They are all properly officered, and are under a surgeon-general, who reports to the surgeon-general in chief.

The establishments with the army actually operating in the field are of three kinds: 1st, the regimental establishment; 2d, the bearer-company; 3d, the field-hospital. These were each described by the speaker.

In conclusion, he said: "It will be seen from the account I have just given, that the regulated plan of medical and surgical assistance for troops on active service is a very complete one, and that it anticipates all the wants that are likely to occur during a campaign. It is obvious that to carry out the arrangements when the strain of a general action occurs, and help is demanded for a large number of wounded, previous training, intelligence, and active exertion on the part of all concerned will be necessary for success. An adequate staff is provided by the regulations for the purpose. In all these arrangements the calamity of a state of warfare in Europe has been particularly held in view. But even in other parts of the world, even in half-civilized countries, the general principles of the system can be maintained; the manner in which they are carried out has alone to vary, according to the nature of the military operations, the condition of country, and other local circumstances."

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## SECTION ON PHYSIOLOGY.

Professor Michael Foster, President, delivered the opening address. His remarks consisted of a very exhaustive historical review of the work done for physiology by Englishmen.

Beginning with Harvey, whom he with Huxley classed as "last of the ancients" rather than first of the moderns, he referred to that great man's work and to the proper estimate that should be put upon it.

Following him was Glisson, who, aside from his anatomical discoveries, first applied the term "irritability" to muscle. Thomas Willis (1660) studied the functions of the brain. Robert Boyle added to the knowledge of respiration and the true function of the lungs. Robert Hook added still more in this direction. He showed, by an ingenious experiment —viz., by keeping the lungs distended with a brisk current of air passing through them, that the central fact of respiration was the effect of the air on the blood, and not the movement of the lungs—a demonstration which I venture to regard as a cardinal fact in the history of respiration. Only a knowledge of the chemistry of the blood-changes was necessary to make the theory of breathing approximately complete. And that also was, though imperfectly, supplied by the labors of two other Englishmen, Hook's contemporaries—Richard Lower and John Majow.

The school of mathematical physiologists, who, incited by the example of Borelli and the influence of Newton, fancied that the calculus alone could solve the mysteries of the living body, made a stir in their day, without really advancing our science, and the works of the versatile Jacobite Pitcairne, of Keil and Jurin are justly forgotten. A little later on, the first Monro began the long series of Scottish celebrities; but he was an anatomist rather than a physiologist. Indeed, in the early part of the eighteenth century the centre of physiological activity was at Leyden, where the brilliant, fascinating Boerhaave was making a school of world-wide reputation.

Boerhaave passed away, and Haller became his intellectual successor. The eighteenth century ran more than half its course with scarcely a sign of physiological activity in England save one. And this came not from the older universities, for they, leaving their old catholic sympathies, were wrapping themselves in narrower studies; not from the wigged leaders of the College of Physicians, for they were wasting time and talents in fruitless discussions of the doctrines of the schools; not, indeed, from the profession at all, but after a truly English fashion, from the sister calling of religion. The Rev. Stephen Hales (1726) was the first to correctly study the blood pressure in the arteries, "which" said the speaker, "is, next to Harvey's discovery, the keystone to the physiology of the vascular system."

Hales' essays are indeed even to-day a mine of delightful observations and reflections. He not only exactly measured the amount of blood-pressure under varying circumstances, the capacity of the heart, the diameter of blood-vessels, and the like, and from his several data made his calculation and drew his conclusions; but by an ingenious method he measured the rate of flow of blood in the capillaries in the abdominal muscles and lungs of a frog. He knew how to keep blood fluid with saline solutions, got a clear insight into the nature of secretion, studied the form of muscles at rest and contraction, and speculated that what we now called a nervous impulse, but which was then spoken of as the animal spirits, might possibly be an electric change. And though he accepted the current view that the heat of the body was produced by the friction of the blood in the capillaries, he was not wholly content with this, but speaks of the mutually vibrating action of solids and fluids as an independent cause of animal heat, in a way which makes us feel that had the chemistry of the time been as advanced as were the physics, many weary years of error and ignorance might have been saved in science.

The next physiological light came from the barber-surgeons, from John Hunter, who, the speaker claimed, had physiological more than anatomical bent of mind. Still he added very little to physiological science because his ideas so far outran the knowledge of his age. Hewson and Joseph Priestly were men who in the latter part of the last century contributed not a little to the advancement of physiology.

The labors of Thomas Young on the physiology of vision were mentioned.

Of Bell's work Dr. Foster said:

"And, indeed, the Nemesis which ever follows after errors, be they even errors committed with the best intentions, or in spite of the greatest care, overtook Charles Bell. We justly honor him as the author of the distinction between motor and sensory fibres; but that was only a part of the whole system of his new idea. That was the part which he sub-

mitted to the touchstone of experiment; that is the part which has remained, and which continues to this day, more and more abounding at once in scientific fruits and in practical benefits to mankind. The rest of his views (his nervous circles, his paths within the cerebral-spinal axis, his respiratory nervous system)—and if rumor be true, it was on these that he most prided himself—he refused to submit to experiment. And what has become of them? Are they not forgotten, or remembered only as stumbling-blocks, and rocks of offence?"

In conclusion, the speaker described the work of Marshall Hall and that of some of the later English physiologists.

The great advances in physiology were not now made in England, he was forced to admit.

This was largely because the work was hampered by legal restrictions upon physiology. Referring to the necessity, for physiological progress, of vivisection, he quoted the words with which Willis ends his preface to the "Cerebri Anatome:"

"Nam aut hac via scilicet per vulnera et mortes per Anatomiam et quasi Cæsareo partu, in lucem prodibit verit as aut semper lalebit." "For either in this way, namely, through death and wounds, through dissection, and, as it were, by a Cæsarean operation, will truth be brought to light or otherwise will lie forever hid."

## SECTION ON PUBLIC MEDICINE.

Mr. John Simon, after a few introductory remarks, gave a sketch of the meaning and the scientific method of state medicine. Much stress was laid on the value of experimentation, and the distinction shown between scientific and popular experiments.

He referred to the fact that, during the last quarter of a century, all practical medicine (curative as well as preventive) had been undergoing a process of transfiguration under the influence of laboratory experiments on living things. The progress which had been made from conditions of vagueness to conditions of exactitude had, in many respects, been greater in these twenty-five years than in the twenty-five centuries which preceded them; and with this increase of insight, due almost entirely to scientific experiment, the practical resources of our art, for present and future good to the world, had had, or would have, commensurate increase. Especially in those parts of pathology which made the foundation of preventive medicine, scientific experiment in these years had been opening larger and larger vistas of hope; and more and more clearly, as year succeeded year, we saw that the time in which we were was fuller of practical importance than any of the ages which had preceded it.

Reference was also made to the practical results born of experimental methods of investigation. The successful researches of Klein, Pasteur, Klebs, Bollinger, Grawitz, Sanderson, Greenfield, Semmer, Schüller, and many others, were set forth. He ventured to say that, "In the records of human industry it would be impossible to point to work of more promise to the world than these various contributions to the knowledge of disease, and of its cure and prevention; and they are contributions which, from the nature of the case, have come, and could only have come, from the performance of experiments on living animals."

Speaking of the now pending agitation against vivisection, he remarked: "I regret to have had to speak at so much length of the heavy cloud which at present hangs over the study of scientific medicine in England, and which, in my opinion, is likely to be of specially disastrous effect on the progress of preventive medicine. As a very old public servant in that cause, I should indeed grieve to see it brought to a standstill for want of the scientific nurture which, in truth, is its very basis of life; and, speaking publicly of the danger on this occasion, I have hoped that the occasion may give importance to what I say."

He concluded his discourse in the following words:

"And now, gentlemen, from contemplating that cloud, which happily is but local, and which, perhaps, may be but temporary, I gladly turn to skies which have no cloud. If there exist in the social organism any function whatsoever for which development and eventful triumph may be foretold, surely it is that of state medicine. Of the two great factors concerned in it—the two strong powers which within our own time have converged to make it the reality which it is—the growth of science on the one hand, and the growing stress of common humanity on the other, neither one is likely to fail. Of our science it is needless to say that it will grow. To the science of nature, indeed, is allotted that one incomparable human day which knows no sunset. In the pure light of its ever-present daybreak, individual workers will pass away, generations will change, but the studies of nature, and, above all, the gathering of such knowledge as can lessen man's physical difficulties and sufferings, will surely grow from age to age, and, as on Proserpina's sacred tree, one golden fruit will follow another: 'simili frondescet virga metallo.'

"And no less, also, in the other direction, the auguries are wholly for our cause. Popular education is gradually making its way, and it will grow to be a force on our side. Masses of mankind that now have to be humbly pleaded for by others, will then be strong to speak for themselves. Physical interests, now but little understood, will then be within grasp of all men's apprehension. Not only will health be recognized at its true value, and its elementary requirements be regarded, but also the frauds and villanies which are now committed against it will have become intelligible to the common mind; and the workman of the future will strike against being cheated in health as he would now strike against being cheated in wages. As such times come to the world, the science and the profession which care for man as man, will get to be better appreciated than now. And in proportion as an educated people grow to become body-politic, state medicine will be seen to represent that true ideal of government action which sets its standard of success in the 'greatest happiness of the greatest number.'"

## SECTION ON PATHOLOGY.

### ON THE RELATIONS OF MINUTE ORGANISMS TO CERTAIN SPECIFIC DISEASES.

The speaker, Professor Klebs, undertook to answer the question: "Are there specific organized causes of disease?"

A short historical review of the various opinions of mankind as to the origin of disease led, the speaker thought, to the presumption that these causes were specific and organized.

If we now, he said, consider the present state of this question, the three following points of view

present themselves as those from which the subject may be regarded :

I.—We have to inquire whether the lower organisms, which are found in the diseased body, may arise there spontaneously; or whether even they may be regarded as regular constituents of the body.

II.—The morphological relations of these organisms have to be investigated, and their specific nature in the different morbid processes has to be determined.

III.—We have to inquire into their biological relations, their development inside and outside the body, and the conditions under which they are able to penetrate into the body, and there to set up disease.

*First.*—With regard to the first question, that of the possibility of spontaneous generation, the speaker gave a decided negative.

*Second and third.*—There is in microscopic organisms a difference of form corresponding, as a rule, to difference of function. The facts regarding these various lower forms are briefly reviewed.

"Three groups of hyphomycetæ, algæ, and schizomycetæ, have been demonstrated to occur in the animal and human organism in infective diseases. Their significance increases with the increase of their capacity for development in the animal body. This depends partly upon their natural or ordinary conditions of life, but partly also, and that in a very high degree, upon their power of adaptation, which, as Darwin has shown, is a property of all living things, and causes the production of new species with new active functions.

"1. The hyphomycetæ, on account of their needing an abundant supply of oxygen, give rise to but few morbid processes, and these run their course on the surface of the body; and are hence relatively of less importance. It will be sufficient here to refer to the forms: achorion, trichophyton, oïdium, aspergillus, and the diseases produced by them, favus, ringworm, and thrush, to show this peculiarity. Nevertheless, we see that these organisms also (as was proved by the older observations of Hannover and Zenker) may, under certain circumstances, penetrate into the interior of the organs. Grawitz, moreover, has recently shown that their faculty of penetrating into the interior of the organism, and there undergoing further development, depends on their becoming accustomed to nitrogenous food.

"2. Only one of the algæ, viz., leptothrix has as yet acquired any importance as a producer of disease. It gives rise to the formation of concretions, and that not only in the mouth, but also, as I have shown, in the salivary ducts and urinary bladder.

"Another alga, the sarcina of Goodsir, may indeed pass through the organism, without, however, producing in its passage either direct or indirect disturbances. It seems more worthy of note that many schizomycetæ, and especially the group of bacilli, are evidently nearly allied to the algæ in their morphological and vegetative relations—so as to be assigned to this class by several authors, and especially by Cienkowski.

"The schizomycetæ furnish, without doubt, by far the most numerous group of infective diseases. We distinguish within this group two widely different series of forms, which we will speak of as bacilli and cocco-bacteria respectively. The former, which was first exhaustively described by Ferdinand Cohn, and the pathological importance of which, especially in relation to the splenic disease of cattle, was first shown by Koch, consist of threads, in the interior of which permanent or resting-spores are developed. These spores becoming free, are able, under suitable conditions of life, again to develop into threads. The whole development of these organisms, and especially the formation of spores, is completed on the surface of the fluids, and under the influence of an abundant supply of oxygen.

"The number of affections in which these organisms have been found, and which may be to a certain extent produced artificially by the introduction of these organisms into healthy animal bodies, has been largely increased since the discovery of Koch, that the bacteria of splenic fever (anthrax) belong to this group. Under this head must be placed the bacillus malariæ (Klebs and Tommassi-Crudeli), the bacillus typhi abdominalis (Klebs, Ebert), the bacillus typhi exanthematici (Klebs, observations not yet published), the bacillus of hog-cholera (Klein), and, finally, the bacillus leprosus (Neisser). It would exceed the time appointed were I to attempt to describe these forms more minutely. This may, perhaps, be better reserved for discussion and demonstration.

"Alongside of these general infective diseases produced by bacilli, local affections also occur, which indicate the presence of these organisms at the point where disease begins. As an example of these processes, which probably occur in various organs, I would mention gastritis bacillaris, of which I shall show you preparations. In this, we can trace the entrance of the bacilli into the peptic glands, as well as their further distribution in the walls of the stomach, and in the vascular system.

"The second group of the pathogenetic, schizomycetæ I propose to call, with Billroth, cocco-bacteria, because they consist of collections of micrococci, which are capable of transforming themselves into short rods. The former usually form groups united by zoöglœa; by prolongation of the cocci rods are formed, which sprout out, break up by division into chains, and further lead again to the formation of resting masses of cocci. I distinguish, further, in this group, two genera—the microsporina and the monadina; in the former of which the micrococci are collected into spherical lumps, in the latter into layers. The one class is developed in artificial cultivation-fluid, the other on the surface. The former requires a medium poor in oxygen, the latter a medium rich in oxygen, for their development.

"Among the affections produced by microsporina, I reckon especially the septic processes, and also true diphtheria. On the other hand, to the processes produced by monadina belong especially a large series of diseases, which, according to their clinical and anatomical features, may be characterized as inflammatory processes, acute exanthemata, and infective tumors, or leucocytoses. Of inflammatory processes, those belong here which do not generally lead to suppuration, such as rheumatic affections, including the heart, kidney, and liver affections, which accompany this process, sequelæ which, as is well known, lead more especially to formation of connective tissue, and not to suppuration. Here, also, belong croupous pneumonia, the allied disease erysipelas, certain puerperal processes, and finally, parotitis epidemica, or mumps.

"Among the acute exanthemata, the following may, up to the present time, be placed in this group: variola-vaccina, scarlatina, and measles.

"The group of infective tumors is represented by tuberculosis, syphilis, and glanders. Throughout the whole group of cocco-bacteria the demonstra-

tion of organisms in the diseased parts encounters difficulties which vary considerably in the different kinds."

The speaker concluded by describing the methods (now well known) by which the powers of the different organisms are tested.

He also referred to Pasteur's, Chauveau's, and Toussaint's recent experiments.

His conclusion was that the specific communicable diseases are produced by specific organisms.

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## THE INTERNATIONAL MEDICAL AND SANITARY EXHIBITION.

This exhibition opened July 16th.

One of its most interesting departments was that showing the

### BEDS AND APPARATUS USED BY THE HOSPITALS.

The following description of those is given in the *British Medical Journal:*

In one of the beds we notice, as worthy of attention, a specimen showing the method of applying a "Hodgen's" splint (modified by Bloxam and others) to a fractured thigh. The limb is swung in a wire-cradle, with flannel-understraps, and the long splint, with its elaborate bandages, is entirely dispensed with. In a compound fracture, the wound can be got at without disturbing the limb; and the only drawback is, that a certain amount of lateral movement is permitted between the fractured ends of the bone. In the next bed is seen, applied to the head, an ingenious apparatus (of German invention) for applying cold to any part of the body; a current of iced water is kept constantly circulating through a system of tubes, made of lead, sufficiently firm to resist the weight of the body, and yet small and soft enough, it is said, to cause no inconvenience to the patient. This apparatus is much used by Mr. Bryant, and may be seen, in various sizes and shapes, in the surgical-instrument department of this Section.

A very neat and convenient cot is shown; and on the opposite side will be found a tracheotomy cot and tent, which is as well suited for its purpose as any other exhibited; though this is, unfortunately, by no means high praise. In this cot we notice Mr. Golding-Bird's "trachea-dilator," made for him by Messrs. Millikin & Down. This instrument consists of two fenestrated blades, which are designed to be introduced into the tracheal wound, and then separated by a screw-action. We have lately had an opportunity of testing this instrument, and can testify to the ease with which it can be introduced, and to the effectual manner in which it keeps open the wound in the trachea, and gives free exit to mucus and membrane. As might be anticipated, the pressure exerted on the two edges of the tracheal wound quickly leads to ulceration of the mucous membrane; and for this reason the use of the instrument must, we believe, be limited to the first twenty-four hours. At the end of that time, when hemorrhage has ceased, and most of the membrane about the cords has been cleared away, its place may be well supplied by one of Mr. Morrant Baker's india-rubber tubes, which are shown in use in a tracheotomy tent exhibited by St. Bartholomew's. This tent is very neat and pretty, and consists entirely of washable materials. It, however, strikes us as rather small, and by no means perfection; indeed, we hope that one of the salutary results of the exhibition may be to stimulate inventors to design a really suitable tent for this purpose.

Among the other specimens shown by St. Bartholomew's Hospital, is the apparatus for fractured patella designed by Mr. Manning, as also another method of treating this lesion designed by Mr. Stephenson, a former house-surgeon of the hospital, in which the fragments are retained in position by two broad elastic bands attached to a subjacent wooden-cradle. We also notice the contrivance of the late Mr. Callender (commendable for its simplicity) for making pressure on a femoral artery. Fracture of the femur is treated by a long outside (Liston) splint, and extension is made by an ingenious little apparatus, designed, we learn, by a former house-surgeon, Mr. Sankey, and adopted also by the Children's Hospital (Great Ormond street). This latter hospital exhibits a cot illustrating the treatment of hip-joint disease in general use there. The diseased limb is bandaged to a splint, which is supported beneath by an apparatus on the principle of a book-rest, and extension is made as above stated; a long outside splint is applied to the sound limb, and the head only of the little patient is supported on a square pillow: the child is retained in the recumbent position by the so-called "Queen's square armlets," a method also made use of in the bed shown by St. Mary's, where it is adapted to a "patient," on whom is also demonstrated the method of treating cervical caries by a leathern collar moulded (by Spratt, of Brook street) to the neck. Leathern splints made by the same firm are also shown in the St. Mary's cot, adapted to the treatment of strumous disease of the knee. The collar for cervical caries is supplemented by sand-bags, so arranged as to prevent rotation of the head.

The Middlesex Hospital shows the old-fashioned, but very useful, if rather clumsy, De Morgan's splint for the treatment of morbus coxæ; and a most convenient apparatus, first used, we believe, by Dr. Cayley, for bathing a fever patient with the least possible disturbance: a hammock slung from a movable gallows receives the patient, who is then raised from his bed by pullies, carried by a traveller until he is suspended over a bath placed beside the bed, and finally lowered into the bath by a reversed action of the pulleys.

The exhibit of King's College Hospital shows the various apparatus used in the antiseptic treatment of wounds, though we may remark, by the way, that the dressings are only placed in the basket shown when about to be used. It is, we think, unfortunate that one of the tin boxes ordinarily in use for storing the dressings is not also exhibited. We are sorry to find fault, but the tracheotomy-tent shown by this hospital, with its heavy flannel curtains and clumsy frame, seems to us singularly unsuited for its purpose, and unworthy of the institution from which it emanates. Neither is the bed shown by University College Hospital worthy of the reputation of that school; we may notice, however, the method of treating Colles' fracture by Carr's splints.

We have nothing but praise for the beds shown by St. Thomas's Hospital. That one which illustrates the adoption of plaster-of-Paris splints, as recently recommended by Mr. Croft, is particularly worthy of careful study, and seems to us the perfection of neatness and simplicity. A cot is also shown by this hospital, which demonstrates a most convenient method of treating hip-joint disease.

We must also strongly recommend to the careful study of our readers the apparatus shown by Charing Cross Hospital. Two beds show the fenestrated splints designed by Mr. Barwell, which are

so simple that they can be made by the ordinary engineer of the hospital. The one designed for excision of the knee strikes us as particularly admirable; the back-splint, with broad plates of soft iron moulded to the thigh and calf, reaches from the fold of the nates almost to the knee; the anterior splint consists of three plates moulded to the thigh, leg, and foot, connected together by light iron rods; the heel is left entirely free, and the fenestrum over the knee is sufficiently wide to permit of the easy application of an antiseptic dressing without at all disturbing the splints, which are from the first firmly fixed to the limb by plaster bandages. Another bed, arranged by Mr. Bloxam, shows a "Hodgen's" apparatus, already referred to, as modified by him, and a similar arrangement by which the use of bandages in the treatment of fractured tibia can be entirely dispensed with. The London Hospital, the New Marylebone Infirmary, the Royal Free Hospital, and the Westminster Hospital show beds which are of interest, but which contain no special novelties; and St. George's Hospital also exhibits some apparatus, but of a rather antiquated type.

Lastly, we may notice the bed shown by the hospitals of the army and navy, which illustrates the first treatment of wounds and fractures, and is a marvel of ingenuity. Esmarch's triangular bandages are used throughout, and we should especially direct attention to the treatment of fractured thigh. A rifle forms a long outside splint, a waist-belt supplies the place of a body-bandage, triangular bandages fix the impromptu splint to the thigh and ankle, and a third bandage is used as a perineal band; the same bandages serve to fix two bayonets to the arms, where they act as excellent splints; and a wound of the hand is also dressed with this bandage. If any fault can be found, it must be with the tourniquet in use, which we have heard described by a good authority as the worst in existence.

## UNVEILING OF THE HARVEY STATUE AT FOLKESTONE.

The statue of William Harvey, the discoverer of the circulation of the blood, was unveiled before a numerous company on Saturday, August 6th. The ceremony took place at Folkestone, the birthplace of the illustrious scientist. It is not necessary here to refer to the brilliant career of Harvey, for the essential facts of his life, although it was spent nearly three hundred years ago, are familiar to the profession.

The statue now erected at Folkestone is a bronze figure, eight feet high, sculptured by the artist Albert Bruce Joy. It is placed on a granite pedestal, adjacent to Castle Hill avenue, facing the sea, and not far from the site of the house which was Harvey's birthplace. For the unveiling ceremonies a special train had been granted to bring down the guests of the Folkestone mayor and corporation from London. They comprised Sir James Paget, President of the International Medical Congress this year, Professor Richard Owen, C.B., of the British Museum, Professor Albanese (Palermo), Dr. Astley, Professor Bamberger (Vienna), Professor W. Braune, Professor Donaldson, Dr. Fornoni, Professor Gamgee, Mr. Barnard Holt, Sir Henry Hunt, Professor W. Littlejohn, Professor Macalister, Professor Moore, Professor Panum, Professor Quinlan, Dr. Owen Rees, Mr. Ernest Hart, Professor Rutherford, Dr. Ranking, and Dr. Sieveking. The Mayor of Folkestone, Mr. J. B. Tolputt, with the Aldermen and Town Councilmen in their robes, and with Sir Edward Watkin and other gentlemen, met the train at Shorncliffe station, and a number of carriages were ready to convey the visitors to the enclosed space and raised platform around the Harvey statue. Dr. Eastes there opened the proceedings, and spoke of the merits of William Harvey and his services to mankind, as one of the greatest discoverers in anatomy and physiology. He then called upon Professor Owen, one of the most eminent comparative anatomists and physiologists in the modern scientific world, to unveil the statue and present it, on behalf of the subscribers, to the Mayor and Corporation of the town.

Professor Owen, in his address before unveiling the statue, explained how the methods and results of Harvey's discovery had not only laid the foundation of all progress in physiology, but had been the basis of modern scientific medicine and surgery, and consequently, the source of countless blessings to suffering humanity. From this point Professor Owen passed into a disquisition on the experiments and discoveries of Harvey and his follower, Hunter, showing the value of vivisection as the helpmate of surgical research and discovery, and without which we should still be in the dark ages of science as regarded the healing profession. In conclusion, he remarked that it seemed to him to be a public duty germane to the memory of the "great vivisector," to oppose a now threatened appeal to the Legislature totally to prohibit such experiments as those to which mankind was indebted for Harvey's and Hunter's great discoveries. He was prepared to prove, on all fitting occasions, the mode and degree in which vivisection imparted the power of diminishing and removing the sufferings of our fellow men. The learned Professor concluded by presenting, on behalf of the committee and subscribers, the memorial to the Mayor and Corporation of Folkestone.

Canon Jennings offered a prayer, and after a few words from Dr. Bowles to his medical brethren of the town, the company adjourned to the Town Hall, where luncheon was provided under the presidency of the Mayor. Prosessor Owen proposed "The memory of Harvey," which was drunk in silence. Sir Edward Watkin proposed the health of Professor Owen, to which that gentleman responded. The Mayor then presented Professor Owen with a complete set of Harvey's works. Dr. Erichsen proposed the health of Sir George Burrows, Dr. Simon, Dr. Rees, Dr. Eastes, and Mr. W. G. S. Harrison, who have been connected with the memorial fund. This terminated the ceremonies, and the party soon broke up to return to London by a special train.

Hints from the Homœopathic Pharmacopœia.—Dr. Piffard, in his treatise on "The Materia Medica and Therapeutics of the Skin," gives a number of remedies not confined to the U. S Pharmacopœia.

Thus, a favorite remedy for early syphilis is the hydrargyrum oxidum nigrum Hahnemanni, in a state of trituration, in doses of $\frac{1}{3}$ to $\frac{1}{36}$ of a grain. The same authority highly recommends the administration of other remedies, such as corrosive sublimate, cyanide of mercury, arsenious acid, etc., in the form of triturations, as being more soluble.

In acute eczema, Dr. Piffard believes that rhus toxicodendron will cut short the attack if taken at the beginning; and he adds that $\frac{1}{100}$ of a drop of a good tincture is not too much to begin with.

# THE MEDICAL RECORD:

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GEORGE F. SHRADY, A.M., M.D., Editor.

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## THE INTERNATIONAL MEDICAL CONGRESS.

In this week's issue we conclude our report of the London session of the International Medical Congress. Now that the complete work of the various sections, as well as the general addresses, are before us, we can better estimate the wide scope and far-reaching significance of this, the seventh of the great international medical gatherings. And most certainly are we now justified in the repetition of a former statement, that never before has so important, so extensive, and withal so satisfactory a meeting of scientific physicians been witnessed by the medical fraternity or the world at large.

The truly cosmopolitan character of medical science never received a nobler vindication. The *Lancet*, commenting upon this theme, aptly points out the power of science "to overcome the strong barriers set up by history, race, language, and creed." It further remarks: "To find men of the highest eminence and worth, hurrying from all parts of the civilized world to meet in Congress for a few short days, and be as of one great family, calls up a vision so often pictured by reformers—the true solidarity of nations. Amid the many jealousies of country and of creed, it is of no small value to find that there is a platform on which all are glad to meet for one common purpose, however much they may vary in education, or political and social advancement."

On almost every conceivable topic of contemporaneous interest to the profession, and on several points of highest importance to mankind in general, we have been given the matured opinions and well-considered judgments of those best qualified for their expression. Indeed, the selection of the speakers for the general assemblies has been a most judicious one, and reflects the highest credit upon the gentlemen in charge of the matter. The sectional addresses were, perhaps, occasionally ponderous or devoid of novelty, and often lacking in that broader interest which characterized the general discourses. But that is an inherent drawback of specialism, and cannot be construed into a reproach to the Congress.

Moreover, for the first time in the history of these medical reunions, has a truly international gathering been successfully arranged. Of course the English-speaking element was the predominant one, but all civilized nations had sent representative men. Many of these were of undisputed eminence in their respective countries, and not a few enjoyed a world-wide fame. Briefly told, then, the leading features of this immense medical gathering were its truly international character, the practical turn given to the large amount of work accomplished, the exceptional value of many of the addresses, and, we may add, the perfect demonstration it gave of the meaning of British hospitality. A happy and harmonious blending of earnest business with pleasure was indeed noticeable throughout the week. We feel assured that the liberal hospitality uniformly extended to foreign delegates and visitors, will be warmly appreciated, and will long remain with them a happy and grateful recollection of the past Congress.

Of course our account of the numerous festivities "that formed so graceful a feature of the week" has of necessity been rather brief; nevertheless, it should suffice to indicate the justice of the foregoing remarks concerning British hospitality. The visits to London's great hospitals doubtless afforded much satisfaction to many foreign delegates. In this, as in many other respects, it would indeed be difficult to estimate the indirect fruit which this Congress will bear, quite apart from the direct stimulus which it must needs impart to medical progress.

It was, of course, quite inevitable that the subject of germs and their relation to disease should have been approached. Nor can the opinions so clearly set forth by Pasteur, the avowed champion of modern experiments relating to disease-germs, in the least surprise us. We can hardly share the sanguine views he holds concerning the infinite power of preventive medicine, but we gladly recognize the value and importance of past labors and continued researches in this field.

What did surprise us, however, was the unmistakable hesitancy with which Lister met the cool but determined opposition of Keith and others. This opposition to the details of Listerism was based on facts and figures, the eloquence of which, perhaps, somewhat upset Mr. Lister's argumentative purpose. At any rate we are pleased to observe that the originator of an orthodox and dogmatic system of wound-treatment has expressed, or intimated, his readiness to abandon one detail, at least, of Listerism which has been hitherto pronounced its most

essential and characteristic feature, viz.: the spray. The practical outcome of this admission on the part of Lister will doubtless soon be made conspicuous by a widely re-echoing cry of "*Fort mit dem spray!*"

The brilliant, sometimes passionate, yet always philosophical and logical pleading of Virchow, in behalf of untrammelled liberties of pathological experimentation, and the endorsement of his views by the whole Congress, should be a convincing argument to all the world of the paramount justice and importance of vivisection. It will be sure, moreover, to dismay the champions of anti-vivisection and their followers.

Simon's address was a masterpiece in its way, and will remain a lasting monument to his broad intelligence and noble humanity.

The power and eloquence of Paget's presidential address, the warm sympathy it expressed with human efforts, the cheering and hopeful view it took of medical progress, combined to shed the grateful rays of a confiding optimism on subjects which often quite naturally lead to direst pessimism.

In Volkmann's address we are treated to an able review of past surgery on the Continent, together with the accurate description of the great and favorable changes which antiseptic methods of wound-treatment have wrought in the results of operations, mainly of German hospitals and clinics. The speaker dwelt at some length on the manner in which operative surgery had extended, and was still enlarging its legitimate domain. He opened up a proud and brilliant vista of past accomplishments, and foreshadowed a future of glorious achievement in this department of the healing art.

Dr. Billings' address seems to have been an agreeable surprise to our transatlantic brethren, who are not in the habit of listening to American raciness, humor, and rhetoric. His speech, although largely statistical, was so alive with sallies, hints, and terse expressions, that it kept his listeners awake with unfeigned attention till his last word was uttered.

The interest which attaches to M. Raynaud's valuable address on "Scepticism in Medicine," was tempered with melancholy regret at his untimely and unexpected death. His friend, Dr. Férêol, ably read the appeal implied in his departed colleague's words—an appeal mainly directed against the unfortunate tendency to nihilism in medicine. Let us hope that his earnest admonition to think more of what we do know than what we do not know, may be heeded by the generations which will succeed him and his era.

Huxley's address was, in all respects, a masterly production. We cannot withhold our admiration from a mind so keen, so vast, and so versatile, that even when it discusses subjects without the realm of its special pursuits, we, the true specialists of that field, are yet instructed, pleased, and almost awed. Huxley laid some stress on the fact that Harvey, to whom he paid a glowing tribute, should be known rather as the first demonstrator of the essential facts of circulation, than as the actual discoverer of its existence. Medical empiricism came in for a liberal share of criticism, mitigated, however, by the expression of the fond hope that strict science and true practice might soon go hand in hand toward the common goal of the improvement of the human race.

In taking leave of the London session of the International Medical Congress, we may be permitted to indulge the hope that its future meetings, if they do not excel, will at least equal the one just past in magnitude, brilliancy, the practical value of its manifold work, and the uniform success of its numerous entertainments.

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### THE PRESIDENT.

After our last writing the condition of the President continued to grow worse, until the 26th ult. At that time his pulse occasionally reached 120. His mind at times wandered. The secretion from the wound was unhealthy in appearance, and the parotid gland, which had suppurated, showed no signs of improvement. The President had lost, it was estimated, eighty pounds of flesh, which is very nearly two-fifths of his body weight.

The patient's strength seemed failing. The fever did not rise higher than usual, nor was the respiration much increased. But all the symptoms were bad, with the exception that the stomach retained and apparently digested nourishment.

The hopes of recovery, which were nearly abandoned at that time, have since been revived. The patient, on the 27th, began to show more favorable symptoms. The pulse became slower and stronger, the wound and the parotid abscess presented a better appearance, and the patient's mind became clearer. More nourishment was called for and taken.

During the critical period, nourishing and stimulating enemata were given; but these have now been discontinued, and, at date of writing, the inflammation of the parotid appears to be on the decline.

The later symptoms of the President have shown very clear evidence of septic infection; the consequent depraved condition of the blood, as we mentioned in our last issue, allows of new complications to be expected every day. There is yet every reason to fear therefore that a final collapse may any day be announced. Still, some hope of recovery can be reasonably entertained.

The lungs are now being carefully watched. It certainly shows a marvellous strength of constitution that the President has lain helplessly in bed for

eight weeks with, as we are informed, no pulmonary complication at all.

There has been much vague talk about the patient's suffering from pyæmia. Certainly in no proper sense of the word has he had that complication. The term pyæmia, as generally used, is a nosological blunder, as was pointed out by Virchow, and it has been wisely discarded, or relegated to only a peculiar form of infective fever, by later writers.

Attacks continue to be made on the medical attendants by some of the daily papers. These attacks are foolish and sensational. The confidence in the skill of the President's advisers should be, and still is, maintained by those competent to judge of it. It is most unreasonable to suppose that the numerous suggestions which are put forward by medical men and laymen have not been intelligently considered by those in charge of the patient.

It is fair, however, to inform the medical attendants what the criticisms among medical men are, and what the profession will eventually call upon those responsible for the President to explain.

It will not be asked why they did not at first probe the wound and at once remove the bullet. The course of treatment adopted was in accordance with the best surgical practice, and it cannot be criticised. But it will be asked why the patient was kept in a house where several attendants had to leave on account of malaria?

Why the wound was not probed and the bullet searched for after the wound had granulated along its course?

Why they announced for so many days, in vague and rose-colored bulletins, that the "symptoms were somewhat more favorable," when the patient was losing over a pound in weight every day, and was, as it seemed later, steadily failing in strength?

Whether the enormous and rapid loss of flesh, with so little fever to produce it, could not have been in any way lessened, and whether the excretions were chemically examined to determine, if possible, the exact cause of this loss?

We put these questions because they are being asked by medical men, and will continue to be. We have no doubt that they can be satisfactorily answered.

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### ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION.

The British Medical Association held its annual meeting at Ryde, Isle of Wight, on August 9th, 10th, 11th, and 12th. Coming, as it did, immediately after the International Medical Congress, its work was naturally much overshadowed by that of the previous gathering. Nevertheless, as the British Association is the largest medical organization in the world, its annual sessions cannot fail to furnish something of importance and interest. In addition to this, the meeting was held in a beautiful town, with many rural attractions about it, so that not a few stragglers from the London Congress were found there. There was, consequently, a good attendance, and some excellent work done.

The discourse of the President, which we present in part elsewhere, was interesting as a literary effort, though rather commonplace on the whole. Dr. Bristowe's address, however, upon homœopathy deserves careful reading, especially its latter portion. After showing, with much more knowledge and candor than is generally exhibited, its absolute fallaciousness as a system of medicine, he yet advocates charity and liberality toward those practising it. We shall recur to his conclusions on some later occasion.

The report of the treasurer shows that there is a balance of $50,000 in the treasury. We may well, in America, think with envy of the amount of scientific work which such a sum of money might secure.

The most important of the annual reports was that of the committee on organizing a system of cumulative observation. This committee, in response to a suggestion made by Dr. Humphreys a year ago, reported a plan for securing an extended series of clinical observations upon various subjects. It suggested a number of subjects to be thus studied, and it would have a secretary appointed at a salary of one thousand dollars a year, who should travel about to the different sectional meetings, and thus obtain the results of the observations of many individuals upon matters selected for this mode of study. It can easily be seen what important results may be secured in this way.

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Eucalyptol *versus* Carbolic Acid.—Eucalyptol has been proposed by Lister as a safe and efficient substitute for carbolic acid in surgical dressings. This substitution is also warmly recommended by Mr. C. Roberts, of London *(British Medical Journal)*, who has used it with the best results.

The State Medical Society of Nebraska has published the proceedings of its ninth, tenth, eleventh, and twelfth annual sessions. Of these meetings the first three are remarkable for the paucity of reports on the part of the various sections. At the tenth the following unique resolution was introduced:

"*Resolved*, That the Nebraska State Medical Society deprecates the *abuse* of alcohol in any manner *except for medicinal purposes*, believing it to be detrimental to health, degrading to nature," etc.

In view, however, of certain facts, among others "that it would be a committal of the society, after having accepted of the champagne tendered at the previous evening," the motion to adopt was withdrawn, and we are left to infer that the Nebraska State Medical Society sanctions the *abuse* of alcohol, even for medicinal purposes. A number of papers were read at the twelfth session. Dr. v. Mansfelde presenting "Sex Production" and "The Ovum in its Relations to the Laws of Evolution."

# Reviews and Notices of Books.

A Treatise on Diseases of the Joints. By Richard Barwell, F.R.C.S., Senior Surgeon and Lecturer on Surgery, Charing Cross Hospital. Second Edition. New York: William Wood & Company. 1881.

This volume of 463 pages forms a valuable addition to Wood's Library of Standard Medical Authors. Mr. Barwell has entirely rewritten his book, and he tells us in his preface that: "in its present form the treatise contains but a few words here and there of the first edition." Nevertheless, upon examination it appears that the book is not in all respects as modern as it should be. This is especially noticeable in the first chapter, which deals with the pathological anatomy of joints. The author makes a fundamental distinction between diseases beginning in the synovial membrane and such which commence in the bones. Practically, however, it is to be borne in mind that in most advanced cases it is not possible to discover the precise origin of the disease. Hence, we cannot agree with Barwell in believing such a primary distinction must underlie successful treatment. Still, an accurate and scientific diagnosis is always desirable, even if it be not invariably possible.

The different forms of synovitis, arthritis, and ostitis, the affections of the sheaths and bursæ, hysteric pseudo-disease of joints, genu varum and valgum are each in turn satisfactorily dealt with. A fact which enhances the practical utility of the volume, consists of the copious supply of typical cases of the various diseases described, many of which also illustrate the good results of the author's methods of treatment. Most of Barwell's therapeutic measures are the approved ones of the profession. Perhaps this circumstance may be interpreted as indicating a lack of originality on the part of the author, but we prefer to see in it only a sign of judiciousness in the choice of recommendable modes of treatment. Taken all in all the volume is likely to be found serviceable both by surgeons and that large class of general practitioners who treat surgical diseases.

The Sympathetic Nerve: its Relations to Disease. By C. V. Chapin, M.D., House Physician, Bellevue Hospital. Providence: J. A. & R. A. Reid, Printers. 1881.

This is the Fiske Fund Prize Essay, and though entirely wanting in evidence of original research, it nevertheless bespeaks the author's capability as a compiler. Above all things this essay possesses the merit of brevity, in fact this is sometimes carried to excess. Certainly the writer's style could have been much improved by a little additional expansiveness here and there. After a brief account of the main facts regarding the anatomy and physiology of the sympathetic system, the author takes up the consideration of diseases involving the sympathetic nerve. It seems to us that in an essay like this, therapeutical indications had best been altogether omitted, rather than given the very meagre and unsatisfactory representation here found. Although the writer has diligently collected the main facts pertaining to his subject, he has not gathered all the information necessary for a complete résumé of our knowledge on the relation of the sympathetic to disease. One very notable omission is the author's failure to even mention the careful researches of Da Costa and Longstreth on the state of the ganglionic centres in Bright's disease. The author's index is also a very poor one, and might have been entirely omitted without detriment to the usefulness of his little compilation.

Manual for the Physiological Laboratory. By Vincent Harris, M.D., London, M.R.C.P., Demonstrator of Physiology at St. Bartholomew's Hospital, etc., and D'Arcy Power, B.A., Assistant Demonstrator of Physiology at St. Bartholomew's Hospital, etc. 12mo, pp. 124. New York: W. Wood & Co. 1881.

The present little volume, although of modest pretensions and narrow in scope, is a reliable guide-book for the student who desires to learn something of the rudiments of histological methods and histochemistry. There hardly appears any necessity, however, for inserting the very incomplete account of the minute structure of the various organs and tissues. The practical value of this student's manual might have been considerably enhanced by more attention to methods of preparation, and an entire omission of histological details. In its present shape the work before us will doubtless be welcomed by the students attending courses at St. Bartholomew's Hospital, but it can scarcely hope to appeal to a wider circle of readers. We are already supplied with plenty of similar, and, for the most part, more satisfactory books.

Surgical Principles and Minor Surgery. By J. G. Gilchrist, M.D., formerly Lecturer on Surgery in the Homœopathic Medical College of the University of Michigan, etc. Chicago: Duncan Brothers. 1881.

This volume is intended to be the initial one of a series of four or five on surgical topics, which Dr. Gilchrist intends to prepare. It is meant to supply the student with a reliable guide during the first year of his medical pursuits. We fear, however, that Gilchrist's way of looking at medical training is a very superficial one. He puts the cart before the horse, as it were, in endeavoring to teach the student mechanical wound-appliances in an utterly routine manner, and without the faintest preliminary notion of surgical diseases. Besides we have little faith in works of this kind, as they can never equal the practical demonstration of surgical methods and manipulations upon the persons of the patients themselves. A student will be apt to learn more from the personal application of a single bandage, under proper supervision, than if he read ten books like the one before us. Dr. Gilchrist's book, however, is about as good as the general run of works on minor surgery, even if many of its truly homœopathic recommendations will seem rather absurd to any one who is *au fait* with modern surgical principles.

Medical Electricity: A Practical Treatise on the Applications of Electricity to Medicine and Surgery. By Roberts Bartholow, A.M., M.D., LL.D., Professor of Materia Medica and General Therapeutics in the Jefferson Medical College of Philadelphia, etc. 8vo, pp. 262. Philadelphia: Henry C. Lea's Son & Co. 1881.

Dr. Bartholow has attempted to write a practical book for persons quite unfamiliar with medical electrology. In this he has undoubtedly succeeded. He is candid enough, however, and sufficiently mod-

est to explain to the reader that "no claim is made on the ground of pure science." We consider the work a fair and accurate résumé of the present condition of our knowledge concerning the applicability of electricity to the human organism for diagnostic and remedial purposes; still the book is calculated to be of service to the student rather than the practitioner. The latter may be supposed to possess some familiarity with electrical manipulations, and will really find but a limited amount of instruction in the pages of our prolific author's latest production.

But even the student should not too implicitly rely on the positive assurance of the value of electricity in the numerous diseases for which it has been recommended. He should remember that the present book emanates from the pen of an optimist in all matters therapeutical. No one of course would to-day wish to dispute the great utility of electricity in some conditions of organic disease or functional disturbance. But one rises from the perusal of Dr. Bartholow's treatise with the conviction that the author expects rather more from electricity than would seem to be justified from well-authenticated facts. As he himself justly remarks, we all know "that extraordinary results have been achieved by agencies which simply impressed the imagination." The danger of writing on medical topics in a spirit of undue enthusiasm, lies in the fact that the first inevitable disappointment is too apt to fatally touch the tyro's faith. And thus scepticism or utter nihilism may be the harmful result of exciting unjustifiable expectations in the inexperienced mind of the student or young practitioner.

THE PRINCIPLES OF MYODYNAMICS. By J. S. WIGHT, M.D. New York: Bermingham & Co. 1881.

THE author presents, in a compact form, an analysis of the principles of myodynamics, or the forces of muscles and their effects. The subject is subdivided into Myostatics, which treats of muscular forces in equilibrium, and Myokinetics, which treats of muscular forces when they are moving some other force. These subjects, of course, involve a full discussion of the lever and of the parallelogram of forces. The application of these physical laws to the phenomena of muscular contraction and the various movements of the limbs, make up the latter and larger part of the book.

The subject is explained clearly, though, if anything, too briefly. It is very fully illustrated.

We welcome any work which tends to give more exactness to medical and surgical science. Such is undoubtedly the tendency of this work. And we quite agree with the author in his belief, that the better a surgeon understands the principles of myodynamics, the better he can treat fractures, dislocations, and deformities.

THE BROMIDES IN TRAVELLING.—Dr. E. J. Tilt (*British Medical Journal*) says that he has often been able to make travelling comfortable, especially to women, by giving them twenty-five to thirty grains of bromide of potassium on going to bed at night. If the weariness and distress arising from long travelling be great, the same dose should be repeated in the morning.

Very similar directions to these are given in Beard's much criticised book on sea-sickness.

# Reports of Societies.

## BRITISH MEDICAL ASSOCIATION.

*Forty-ninth Annual Meeting, held at Ryde, Isle of Wight, August* 9, 10, 11 *and* 12, 1881.

ADDRESS OF THE PRESIDENT, BENJAMIN BARROW, F.R.C.S.

AFTER referring to the deaths that had occurred among members of the association during the past year, the speaker enumerated the different objects of interest to be found in the vicinity, and welcomed the profession to the island.

He then said that he had chosen for the subject of his discourse the following questions, which he should try to answer affirmatively:

"Are not the duties of medical men, the honest and honorable performance of them, such as to command for our profession an equality with, if not pre-eminence above, every other? If the duties are so performed, are we not entitled to the very highest position in the estimation of the public? Has the profession been so esteemed; if not, what are the causes of such defection?

"I am," he said. "led to this topic, too boldly, perhaps, by an experience of half a century; an experience which induces me to think—having no longer any personal interest in the opinion of the public, save that of my never-dying wish for your welfare, collectively and individually—that I might not uselessly speak to you from the fulness of my heart.

"I propose to consider my observations under two heads, the secular and the sacred; I shall deal with the secular first—not that I consider it of primary importance, but because it leads up to the other. The secular I shall treat of under two heads: first, the antiquity of our profession; and, secondly, the work done by men of the past, and that being done by men of the present."

The speaker then gave a rapid review of the history of medicine and the work done by its masters. He quoted the first poetic praise of the surgeon by Homer, in the words of Eurypylus to Patroclus:

> "But thou, Patroclus, act a friendly part,
> Lead to my ships and draw the deadly dart;
> With lukewarm water wash the gore away,
> With healing balms the raging smart allay;
> Such as sage Chiron, sire of Pharmacy,
> Once taught Achilles, and Achilles thee.
> Of two famed surgeons, Podalirius stands
> This hour surrounded by the Trojan bands,
> And great Machaon wounded in his tent,
> Now wants that succor which so oft he lent."

He ended with the tribute to Jenner inscribed upon his monument at Berkeley:

> "Within this tomb hath found a resting-place
> The great physician of the human race—
> Immortal Jenner; whose gigantic mind
> Brought life and health to more than half mankind.
> Let rescued infancy his worth proclaim,
> And lisp out blessings on his honored name;
> And radiant beauty drop her saddest tear,
> For beauty's truest, trustiest friend lies here."

The speaker then gave his opinions upon the various mooted topics of vaccination, vivisection, temperance, etc.

Regarding temperance, he advocated the use of liquors in medicine. He would have vaccination compulsory, and even more strictly applied than it now is. He believed in the morality and usefulness of the Contagious Diseases Acts, and in the value of

vivisection. He thought it wrong and unjust to compel medical men to report cases of infectious disease—the obligation should be put on the householder. With regard to lady-doctors and lady-nurses, the distinguished orator was very conservative. He did not believe in either of them. He said: "I am not over-squeamish, nor am I over-sensitive; but I almost shudder when I hear of things that ladies now do, or attempt to do. May not this work, the performance of the duties of which entail long watchings, much exhaustion of mind and body—may it not, will it not, so change that fine organization, that sensitive nature of women, so as to render her dead to those higher feelings of love and sympathy which now make our homes so happy, so blessed? Will not the strain upon the delicately-nurtured female have a prejudicial effect upon the babe still unborn? Will not England's glory fade without its modest, sympathizing women, and its race of stalwart youths and blooming maidens? You now, gentlemen, know my views as to the propriety of ladies becoming doctors or nurses."

The speaker then discussed the sacred side of the physician's work. He showed that many of our great physicians were infused with religious sentiment. He quoted Galen's views, the result of his long anatomical and physiological studies: "In writing these books, I compose a true and real hymn to that awful Being who made us all; and, in my opinion, true religion consists not so much in costly sacrifices and fragrant perfumes offered upon His altars, as in a thorough conviction, impressed upon our minds, and an endeavor to produce a similar impression upon the minds of others, of His unerring wisdom, His resistless power, and His all-diffusive goodness. For His having arranged everything in that order and disposition which are best calculated for its preservation and continuation, and His having condescended to distribute His favors to all His works, is a manifest proof of His goodness, which calls loudly for our hymns and praises. His having found the means necessary for the establishment and preservation of this beautiful order and disposition, is as incontestable a proof of His wisdom as His having done whatever he pleased is of His omnipotence."

The President, in conclusion, said that he believed his questions first propounded could all be answered in the affirmative, and "that our profession merits the highest consideration from the world at large, and that it stands upon the topmost pinnacle of fame."

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## ADDRESS IN MEDICINE.

### By John Syer Bristowe, M.D.

The speaker began by alluding to the position of medicine among the sciences. He thought that those who criticised its work did not understand how vastly more difficult and complicated its study is than that of the exact sciences. As regards the future possibilities of medicine, he took no Utopian views. We shall never find specifics for every disease, or make mortal life immortal. But we can expect vast improvement over its present condition. He then took up the subject of

#### HOMŒOPATHY.

He sketched the life of Hahnemann, and then gave an interesting account of the Organon. "This Organon," he said, "is a remarkable work, very interesting also, and very entertaining; for it not only comprises the quintessence of his labors, but reveals the character of the man, as in a mirror, with all his strength and all his weakness, all his wisdom and all his folly.

"Hahnemann was a physician who had a supreme contempt for pathology, and, on the whole, for etiology. He inveighs over and over again against the absurdity of those who endeavor to discover, in morbid phenomena within the body, an explanation of the symptoms which persons who are ill present. He says: 'We may well conceive that every malady implies a change in the interior of the organism, but this change can only be surmised obscurely and fallaciously from the symptoms; it can never be recognized infallibly in its complete reality. The invisible changes wrought by the malady within the organism, and the changes perceptible to our senses (that is to say, the sum of the symptoms), together form a complete image of the malady; but that image is only visible in its entirety to the eye of the Creator. It is the totality of the symptoms which alone constitutes the part of it accessible to the doctor; but it is likewise in the totality of the symptoms that we find everything that it is needful to know in order to cure.' To Hahnemann it is a matter of no moment whether ascites depends on cirrhosis of the liver, or tubercle of the peritoneum; whether an attack of constipation and colic arises from lead-poisoning or from a cancerous stricture; whether a paralytic seizure is the outcome of hysteria, or is due to some material lesion of the brain. In each case, to him, what is the condition of things within is an idle speculation; the symptoms of which the patient complains comprise all that the medical man need know; and to treat these according to the true laws of homœopathy is to cure the disease. But he goes further: for, not satisfied with stigmatizing all pathological investigations as mere pedantry and foolishness, he actually objects to all attempts on the part of systematic writers and practical physicians to distinguish and classify diseases.

"Hahnemann rejected therefore etiology as being of any use to the physician; he rejected pathology, or more especially, morbid anatomy, and nosology.

"Hahnemann's views of the nature of disease were doubtless subservient to his views of the curative operation of drugs. And it is on his therapeutical views, if on anything, that his reputation must depend.

"Stated generally, his views are as follows: The innumerable diseases which afflict mankind, and which arise out of natural causes, consist, for the purposes of the physician, of groups of symptoms; the innumerable remedial agents which exist in nature, locked up in the animal and vegetable kingdoms, and in the inorganic world, are themselves the causes of a parallel series of artificial diseases, which again, for the purpose of the therapeutist, consists of groups of symptoms; in order to cure any natural disease that may come before us, it is necessary to administer that particular remedial agent which is capable of producing identical symptoms with it, and of course this must be given in a suitable dose, for, if in too minute a dose, it leaves a residuum of the original disease uncured: if in too large a dose, it cures the disease, but induces after-effects of its own; and, further, inasmuch as we are not yet acquainted with the specific virtues of all remedies, and inasmuch, therefore, as for a large number of diseases the most suitable homœopathic remedy has not yet been discovered, we must in

such a case select a remedy the effect of which approximates to the symptoms of the disease, by which means we shall cure a certain area, so to speak, of the primary disease, but we shall leave a new disease behind, compounded of the as yet uncured symptoms of the old disease, and the supernumerary symptoms due to the drug itself, which new disease must be treated *de novo* on homœopathic principles. How curious, how ingenious, how interesting the whole thing is! How excellent, if true! And has it not the simplicity of truth in it? The entire range of diseases, the entire range of therapeutics, converted into Chinese puzzles; the phenomena of diseases and the effect of drugs upon them treated as algebraical equations! It is impossible to conceive of any physician working daily by the bedside of patients, and in the dead-house, and seeing diseases as they are, framing such a system, except as a joke. It could only have been, as in fact it was, the serious work of a visionary who had thrown off the trammels of fact, and, allowing his imagination to run riot, mistook its fantastic figments for a revelation from heaven.

"That Hahnemann believed in himself and in the absolute truth of all that he taught, is beyond dispute. He was a prophet, not only to his followers, but in his own eyes. All other systems of therapeutics but his were folly, and all who pursued them were fools. That he had learning, and ability, and the power of reasoning, is abundantly clear. He saw through the prevalent therapeutical absurdities and impostures of the day: he laughed to scorn the complicated and loathsome nostrums which, even at that time, disgraced the pharmacopœias; and he exposed with no little skill and success the emptiness and worthlessness of most of the therapeutical systems which then and theretofore had prevailed in the medical schools; and then he invented and proclaimed a system of his own at least as empty and as worthless as any that had gone before. In this, I suppose, there is nothing very strange; for it is only the broadest intellects (and his was an essentially narrow one) which are capable of treating the offspring of their own brains with the severe impartiality they manifest in other cases."

The speaker then discussed the various arguments and facts alleged to support the homœopathic doctrine. He referred to the meagre and unreliable statements of the Organon and the contradictions found there; the great and inevitable sources of error in the Hahnemann system of proving and of recording cases; the astonishing theory of infinitesimal doses.

He referred then to some of the changes that had been brought about in

MODERN HOMŒOPATHY.

One of these is the hypothesis which converts homœopathy into antipathy. It is to the effect that all medicines have opposite effects, according as they are given in large or in small doses, and that when, as the consequence of proving on the healthy person, a drug is found to excite the symptoms of a disease, it cures that disease by its opposition to it when given in small doses.

The speaker showed also that homœopathy had as yet furnished no genuine and reliable statistics as to its therapeutical value.

Dr. Bristowe concluded with a discussion of the relations between homœopathy and orthodox medicine.

"So far, gentlemen, I have discoursed only on homœopathy as a science and an art. I wish to add a few words on homœopathists as men, and as members of our common profession.

"That a very strong feeling of hostility should have arisen early between orthodox practitioners and homœopathists is not to be wondered at, when we consider, on the one hand, the arrogance and intolerance which Hahnemann displayed, at any rate in his writings, and on the other hand the contempt which experienced physicians felt and freely expressed for him and his whimsical doctrines. Nor is it to be wondered at that this variance should still be maintained; for homœopathy is still a protest against the best traditions of orthodox clinical medicine; and there is a natural tendency among us still to look upon homœopathic practitioners as knaves or fools. But surely this view is a wholly untenable one. That all

HOMŒOPATHISTS ARE HONEST MEN

is more than I would venture to assert; but that in large proportion they are honest is entirely beyond dispute. It is quite impossible that a large sect should have arisen, homœopathic schools and hospitals have been established, periodicals devoted to homœopathic medicine be maintained, and a whole literature in relation to it have been created, if it were all merely to support a conscious imposture. No, gentlemen, the whole history of the movement and its present position are amply sufficient to prove that those, at any rate, who take the intellectual lead in it are men who believe in the doctrines they profess, and in their mission; and who practise their profession with as much honesty of purpose and with as much confidence in their power to benefit their patients as we do. That all homœopathic practitioners are men of ability and education it would be absurd to maintain; but it is absolutely certain that many men of ability and learning are contained within their ranks. If you care to dive into homœopathic literature, you will find in it (however much you may differ from the views therein inculcated) plenty of literary ability; and I have perused many papers by homœopaths on philosophical and other subjects unconnected with homœopathy which prove their authors to be men of thought and culture, and from which I have derived pleasure and profit. Again, I will not pretend that even a considerable proportion of homœopaths are deeply versed in the medical sciences; yet they have all been educated in orthodox schools of medicine, and have passed the examinations of recognized licensing boards; so that it must be allowed that they have acquired sufficient knowledge to qualify themselves for practice. And some among them possess high medical attainments.

"But it may be replied, if these men are honest and educated, and at the same time duly qualified practitioners in medicine, how can they believe, and how can they practise, such a palpable imposture as homœopathy? Well, gentlemen, it is very difficult to account for the beliefs and

VAGARIES OF THE HUMAN INTELLECT.

It is only occasionally that our convictions are the result of conscious reasoning. For the most part they arise in the mind, and take possession of it, we know not how or why; and our reasonings in regard to them (if we reason at all) are merely special pleadings prompted by the very convictions they seem to us to determine—in other words, they are not the foundations of our beliefs at

all, but exhalations from them. It is not surprising, therefore, that, even on matters of supreme importance, irreconcilable differences of opinion prevail, aye, amongst men of high integrity and cultivated intellect. And if we desire to live broad and unselfish lives, we must be slow to condemn all those who entertain convictions which to us seem foolish or mischievous and logically untenable, or to refuse to co-operate with them.

"There are few, even of the best among us, who have not weak points in intellect or character. And it would be deplorable, indeed, if, for example, those of us who look on spiritualism as one of the grossest follies of the times in which we live, were to scout the distinguished chemists and the great writers who devoutly belief in it; or were to refuse to do homage to the conspicuous abilities and high character of a great judge, because, throwing off the judicial impartiality which befits a judge, and acting under the influence of prejudice, emotion, and ignorance, he has made himself the leader of all the hysterical sentimentalism of the day in a crusade against experimental physiology in this land of Harvey and of Hunter! The remarks just made apply especially to beliefs in relation to those matters which are incapable of exact scientific proof, and in which the feelings are largely involved—pre-eminently, therefore, to religion, to politics, and to medicine.

"I ask you, gentlemen, to forbear with me, if I push my arguments to their logical conclusion, and venture now to express an opinion which is opposed to the opinion which many, perhaps most, of you entertain. I do not ask you to agree with it; still less do I ask you to adopt it. But I ask you to consider it; and I am content to believe that, if it be just, it will ultimately prevail. It is that, where homœopathists are honest, and well-informed, and legally qualified practitioners of medicine, they should be dealt with as if they were honest and well-informed and qualified.

"I shall not discuss the question whether we can, with propriety or with benefit to our patients, meet

HOMŒOPATHS IN CONSULTATION.

I could, however, I think, adduce strong reasons in favor of the morality of acting thus, and for the belief that good to the patient would generally ensue under such circumstances. I shall not consider at length whether the dignity of the profession would be compromised by habitual dealing with homœopathists. But I may observe that it is more conducive to the maintenance of true dignity to treat with respect and consideration, and as if they were honest, those whose opinions differ from ours, than to make broad our phylacteries and enlarge the borders of our garments, and wrap ourselves up, in regard to them, in Pharisaic pride. I appeal, gentlemen, in support of my contention to other considerations. It has been held, that to break down the barriers that at present separate us from homœopathists, would be to allow the poison of quackery to leaven the mass of orthodox medicine. But who that has any trust in his profession, any scientific instinct, any faith in the ultimate triumph of truth, can entertain any such fear? All the best physicians of old times, all the greatest names in medicine of the present day, are with us, all science is on our side; and we know that, as a body, we are honest seekers after truth. What have we to fear from homœopathy? Bigots are made martyrs by persecution; false sects acquire form and momentum and importance mainly through the opposition they provoke. When persecution ceases, would-be martyrs sink into insignificance; in the absence of the stimulus of active opposition, sects tend to undergo disintegration and to disappear. The rise and spread of homœopathy have been largely due to the strong antagonism it has evoked from the schools of orthodox medicine, and to the isolation which has thus been imposed on its disciples. If false, as we believe it to be, its doom will be sealed when active antagonism and enforced isolation no longer raise it into fictitious importance. At any rate, breadth of view and liberality of conduct are the fitting characteristics of men of science."

In the subsequent discussion Dr. Long Fox criticised Dr. Bristowe's last remarks and said: If a homœopathic practitioner, alleging that the same remedies were used, the difference being only in name, asked an honorable member of a most honorable profession to associate with him in the treatment of a case, it appeared to him to be like asking the Archbishop of Canterbury to associate with the high priest of the lowest fetish in Central Africa. Why were the adherents—he would not say the victims—of homœopathy to be found among men eminent in piety, sanctity, and benevolence? He believed it was really because they thought that God acted habitually miraculously. But as a reverend profession (as Bishop McDougall had called them), they ought to refuse to countenance so unphilosophical a view of the great First Cause. It was surely a much grander view of the Almighty to believe that he always acted by the grand laws that He had Himself laid down. He hoped that Dr. Bristowe would not suppose that he disagreed with anything he had said. He ventured only to differ in regard to the remarks in the latter portion of the Address.

Dr. Bristowe, in reply, said he knew he had expressed some views not shared by the majority of the members, and he was not surprised at the observations of his friend Dr. Fox.

## New Instruments.

### NEW INSTRUMENTS FOR THE FINDING AND EXTRACTION OF BULLETS.

By FANEUIL D. WEISSE, M.D.,

NEW YORK.

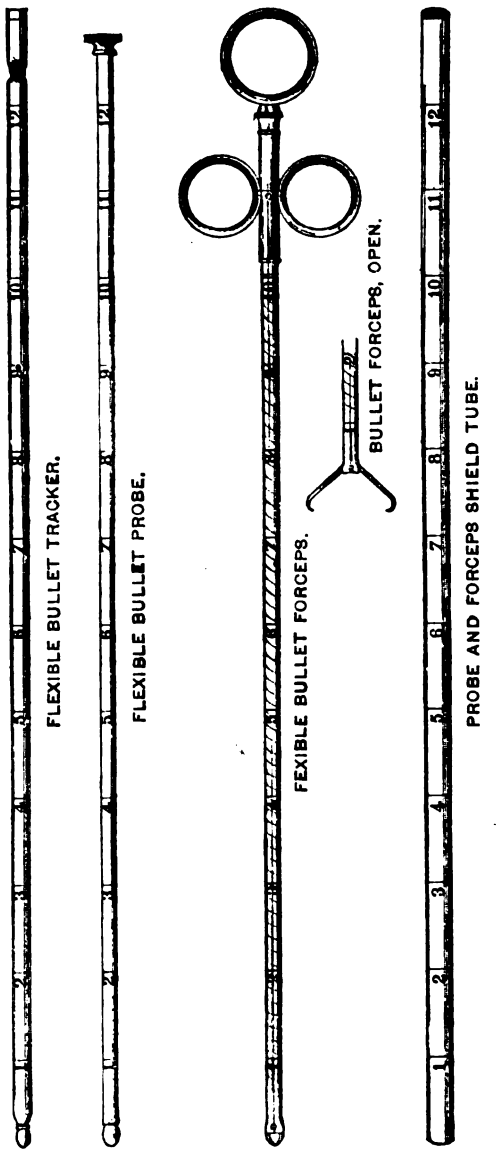
EXPERIMENTS on the cadaver, with the following instruments, would seem to warrant presenting them to the attention of the profession; they are:

A flexible bullet-tracker,
A flexible bullet-probe,
A flexible bullet-forceps,
A probe and forceps shield-tube.

*The flexible bullet-tracker*, is a rubber tube, with a porcelain (Nélaton) probe tip, fixed into and projecting at its end; the tube is loaded with metal (No. 12 bird-shot) to weight it, and its surface is marked off in inches. It is used as follows: Placing the patient in a position to make the wound-track dependent, the instrument is, after being lubricated with carbolized vaseline or oil (1 to 40), made to enter the wound, by its porcelain end; it is allowed, with a slight guidance, to advance by its own weight, and its distance of penetration may then be read off. There is a possibility, out of a number of introductions,

that the porcelain end may effect a marking from the lead, by contact with the bullet, though the pliability of the instrument militates against it.

*The flexible bullet-probe* is a rubber tube, within which is fixed a porcelain- (Nélaton) tipped copper (for flexibility) probe; the tip projecting from the end of the tube, and the surface of the tube being marked off in inches. It is used as follows: After the bullet-tracker has determined the course and depth of the bullet-wound, the probe is introduced




for the same distance, and being stiffer than the tracker, it is better adapted to obtain a tracing on the porcelain tip from the ball.

*The flexible bullet-forceps* is a modification of the instrument, known as "Tiemann's Œsophageal Forceps." It is a tube made of a spiral ribbon of steel, through which a rod plays, back and forth; at the end of the rod are two opposed tenacula (the ordinary bullet-forceps jaws), which are opened by the forward motion of the rod crowding the tenacula against a fixed bar, which covers the end of the interior of the tube between the tenacula; the forceps is closed by retracting the rod, which draws the tenacula into the tube. The surface of the tube is marked off in inches.

*The probe and forceps shield-tube* is a rubber tube of only sufficient calibre to introduce the probe and forceps; the surface of the tube is marked off in inches. Given a bullet-wound, at the end of which a bullet has been determined by a lead-marking on the porcelain end of the tracker or probe, the shield-tube is used in the following way: The probe, lubricated as above, is entered into the shield-tube so as to allow the porcelain tip to project; the shield-tube is in turn lubricated, and the two are passed into the wound for the distance determined by previous examinations as to the locality of the bullet; a lead-marking is effected by manipulation of the probe and shield-tube as one instrument; the probe is now withdrawn and the shield-tube left in the wound; the lead-tracing is again verified on the porcelain tip of the probe, which establishes the bullet as opposite the end of the shield-tube. The forceps is now entered within the shield-tube, and passed along so as to project at its end, where it will recognize, by sounding, the metal impact of the bullet; open the forceps-jaws, and grasp the bullet; then withdraw, by careful manipulation, the bullet, the forceps, and the shield-tube all together.

The tracker is made in two sizes—12 and 18 mm. in circumference respectively. The probe is 12 mm. in calibre. The forceps has a circumference of 12 mm. The shield-tube has a calibre of 14 mm. All the instruments may be made of any length required; those experimented with averaged 30 ctm.

## ARMY NEWS.

*Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from August* 10, 1881, *to August* 27, 1881.

McKee, J. C., Major and Surgeon. By direction of the Secretary of War, the leave of absence on surgeon's certificate of disability, granted in S. O. No. 177, August 19, 1880, is extended three months. Par. 3, S. O. 189, A. G. O., August 18, 1881.

Hubbard, V. B., Asst. Surgeon. Promoted to the rank of Major and Surgeon in the Medical Department, to take effect from the 10th of August, 1881; vice White, deceased.

Bushnell, George E., Asst. Surgeon. Granted leave of absence for fourteen days. S. O. 145, Headquarters Department Dakota, August 9, 1881. Relieved from duty at Fort Yates, D. T., and to report to commanding officer Fort A. Lincoln, D. T., for temporary duty, on expiration of leave of absence. S. O. 146, Headquarters Department of Dakota, August 11, 1881.

Webster, Warren, Major and Surgeon. Granted leave of absence for twenty days. S. O. 149, Department of the East, August 24, 1881.

McClellan, Ely, Major and Surgeon. Relieved from duty in the Department of the Columbia, and to proceed to Louisville, Ky., and report by letter, upon his arrival there, to the Surgeon-General. S. O. 193, A. G. O., August 23, 1881.

Woodhull, A. A., Major and Surgeon. Relieved from duty in the Department of California, and to

proceed to New York City and report by letter, upon his arrival there, to the Surgeon-General. S. O. 193, A. G. O., August 23, 1881.

BROWN, HARVEY E., Major and Surgeon. Relieved from duty in the Department of Texas, and to proceed to New York City and report by letter, upon his arrival there, to the Surgeon-General. S. O. 193, A. G. O., August 22, 1881.

HUBBARD, VAN BUREN, Major and Surgeon. The leave of absence granted him in S. O. 169, A. G. O., August 26, 1881, is extended eight months, with permission to go beyond sea. S. O. 193, A. G. O., August 23, 1881.

DICKSON, J. M., Captain and Asst. Surgeon. Relieved from duty in the Department of the Columbia, and to proceed to New York City and report by letter, upon arrival there, to the Surgeon-General. S. O. 193, A. G. O., August 23, 1881.

COWDREY, S. G., Captain and Asst. Surgeon. Relieved from duty in the Department of the Platte, and to proceed to New York City and report by letter, upon arrival there, to the Surgeon-General. S. O. 193, A. G. O., August 23, 1881.

SHANNON, W. C., Captain and Assistant-Surgeon. Relieved from duty at Fort D. A. Russell, Wyo., and assigned to duty as Post Surgeon at Fort Thornburgh (junction of White and Green rivers), Utah. S. O. 81, Department of the Platte, August 22, 1881.

GARDNER, E. F., Asst. Surgeon. Upon being relieved by Asst. Surgeon Bushnell, is relieved from duty in Department of Dakota, and will comply with Par. 3, S. O. 171, A. G. O. S. O. 150, Department of Dakota, August 17, 1881.

ROBINSON, SAMUEL Q., First Lieutenant and Asst. Surgeon. Relieved from duty in the Department of Dakota, and to proceed to Boston, Mass., and report by letter, upon arrival there, to the Surgeon-General. S. O. 193, A. G. O., August 23, 1881.

POWELL, J. L., First Lieutenant and Asst. Surgeon. Granted leave of absence for one month, to take effect as soon as the Medical Director of the Department shall have completed certain inspection duty at Fort Stockton, Texas. S. O. 99, Department of Texas, August 13, 1881.

BUSHNELL, G. E, Asst. Surgeon. Relieved from temporary duty at Fort A. Lincoln, D. T., to take effect on his arrival at that post, and to proceed to Fort Ellis, M. T., and report to the commanding officer for duty at that post, to relieve Asst. Surgeon E. F. Gardner. S. O. 150, Department of Dakota, August 17, 1881.

TREPHINING IN EPILEPSY.—Mr. J. F. West, of Queen's Hospital, Birmingham, some time ago reported a case of traumatic epilepsy successfully treated by trephining. He now offsets this by reporting a case of epilepsy where trephining failed entirely to help. The patient was a girl of twenty-two years, who had had what was probably idiopathic epilepsy since her fifth year. As she had sustained a severe injury just above the brow, which had left a cicatrix and thickened periosteum, it was thought that possibly this injury helped to keep up the condition. So, as medicines failed to relieve the patient at all, Mr. West trephined. He operated antiseptically, and the case illustrated the value of Listerism in such operations. The fits continued, however, and the girl finally became demented.

# Medical Items and News.

CONTAGIOUS DISEASES — WEEKLY STATEMENT. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending August 27, 1881.

| Week Ending | Typhus Fever. | Typhoid Fever. | Scarlet Fever. | Cerebro spinal Meningitis. | Measles. | Diphtheria. | Small-pox. | Yellow Fever. |
|---|---|---|---|---|---|---|---|---|
| Aug. 20, 1881. | 4 | 20 | 57 | 6 | 24 | 62 | 24 | 0 |
| Aug. 27, 1881. | 1 | 59* | 75 | 2 | 14 | 81 | 6 | 0 |

* 38 Cases in Public Institutions.

WHAT IS PYÆMIA?—According to *Delafield*, under the name of pyæmia are commonly understood several different conditions, giving rise to different lesions:

1. Septicæmia.—In this, some portion of the body is in a condition of gangrene; that is, the tissues are not only dead but decomposing, with the evolution of gases, the softening and liquefaction of the solid parts, and the development of minute organisms, either animal or vegetable. The gangrenous fluids thus produced are, apparently, absorbed by the lymphatics and blood-vessels, and are thus able to produce marked symptoms during life, and to produce death.

2. Simple pyæmia.—Persons who have suppurating wounds or abscesses may, without much change in the wound or abscess, be seized with rigors followed by fever, become jaundiced, and die.

3. Metastatic pyæmia.—This is a very different condition from the other two, and may be accompanied with marked lesions. By the agency of various changes about the wound, substances are absorbed which produce in various parts of the system multiple abscesses and hemorrhagic infarctions.

*Agnew.*—The fevers that follow wounds are divided into three kinds:

1. Simple traumatic infective fever.
2. Secondary traumatic fever.
3. Complicated traumatic infective fever.

The secondary traumatic fever may imitate a hectic fever.

The complicated traumatic infective fever includes what are generally known as septicæmia and pyæmia. But Agnew discards the term pyæmia.

*Billroth* classifies the fevers following wounds into—

1. Primary traumatic fever.
2. Secondary traumatic fever.
3. Septicæmia.
4. Pyæmia.

By septicæmia he understands a constitutional acute disease which is due to the absorption of various putrid substances into the blood, which is thereby spoiled so that it cannot fulfil its physiological function.

Pyæmia is a disease which we suppose to be due to the absorption of pus or its constituents into the blood. It is symptomologically characterized by intermittent attacks of fever, etc., and in its pathological anatomy by abscesses and diffuse inflammations. It is clinically distinct from the other varieties.

*Fordyce Barker* believes septicæmia and pyæmia to be distinct clinically, and, probably, distinct pathologically. There are more evidences of cerebral disturbance, more diarrhœa, fever, chills, and the symptoms come on earlier in septicæmia than in pyæmia.

*Greenfield* considers pyæmia and septicæmia to be distinct, but attributes both to an invasion of the system by microscopic organisms.

*Erichsen.*—Pyæmia is a name applied to a group of pathological conditions. These include (Virchow) (1) leucocytosis, (2) the formation of thrombi with resulting emboli and abscesses, and (3) an absorption of ichorous matter producing the condition known as septicæmia.

*Gant* and *Ashhurst* adopt assentially the same view as Erichsen.

*Aitken.*—Pyæmia is a febrile affection generally sequent on wounds, suppurative inflammation of bone, the puerperal state, or surgical operations, resulting in the formation of secondary abscesses in the internal visceral organs (most frequently in the lungs, the liver, kidneys, spleen, and brain), and also in the joints and connective tissue—sometimes, but not necessarily, associated with phlebitis or embolism. Under this head there is a class of cases which are prolonged and essentially chronic, in which fever does not reach a high degree of temperature, but in which the suppurative tendency is necessarily expressed in many organs and in different parts of the same organ. This is in reality *septicæmia.* There is another class of cases in which superadded to the septicæmia is the suppurative tendency which expresses itself in multiple abscesses, this is *true pyæmia.*

*Virchow* denies that there can be proved to exist any such thing as morphological pyæmia. The name, as designating a definite change in the blood, must be abandoned. As commonly used it covers one or more of the three pathological conditions referred to in the quotation from Erichsen.

*Callender* ("Holmes' Surgery"), adopts essentially Virchow's view, and urges that the name pyæmia be applied only to the condition in which there is formation of thrombi, with fibrinous infection and metastatic abscesses therefrom.

*Bristowe* ("Reynolds' System").—Pyæmia is a disease the most characteristic features of which are (1) its supervention on certain special conditions of the system; (2) the occurrence of rigors, with perspirations; (3) the presence of jaundice; (4) the formation of external abscesses; (5) the great prostration and early death; (6) the occurrence of certain characteristic lesions easily recognized after death.

*F. H. Hamilton.*—The specific causes and the precise pathological character of pyæmia are not yet fully determined. There is much probability, however, that it is a variety of septicæmia, and that it is induced by the reception into the system from suppurating depots of certain septic elements, or of elements which have undergone a gangrenous or, possibly, only a suppurative degeneration.

The symptoms are irregular chills, with profuse perspiration, great prostration, vomiting, delirium, sweet breath.

*Lidell* considers pyæmia as a species of septicæmia, or blood-poisoning; clinically distinct, however, from septicæmia, but to be arranged under the same genus.

*Wagner.*—Pyæmia is divided into two forms:

1. Septicæmia.
2. Embolic or septico-pyæmia.

Pyæmia is defined as a disease, usually acute, which starts in a purulent or ichorrous focus, and is caused by the absorption from this focus, or its vicinity, of mechanical or chemical noxious, so-called septic or putrid substances.

*Bryant.*—According to this author, traumatic fever, septicæmia, and pyæmia, are all names for one condition, viz., blood-poisoning. These different forms of blood-poisoning differ in degree, not in kind. Traumatic fever may pass into septicæmia, and septicæmia into pyæmia.

The variety of statement and of definition in the above, indicates less real discrepancy than would appear. Some of the authorities quoted are antiquated, while the more modern ones are substantially agreed in fact, if not in letter. The view that what used to be known, and still is recognized by some, as pyæmia is only a form of septicæmia, is the one generally held by modern pathologists. Pyæmia is an intenser form of septicæmia, having clinical and morphological characters of its own. The word pyæmia, however, ought to be abandoned, for its etymology conveys a wrong idea of the real pathology of the disease.

Most surgical writers have little claim to speak authoritatively on pathological points. It is noteworthy that Hamilton and Agnew, in their "Surgeries," come nearer to accuracy than the others that we have quoted.

TWO MORE MEDICAL COLLEGES.—There is soon to be established a Medical College in Texas, in connection with a new State University. Its location is not decided upon, but it will probably be in Galveston.

We have received, also, the announcement of a Medical College that is to open this fall at Denver, Colorado.

It is a generally accepted fact, that the number of medical colleges already in existence in the United States is more than enough to supply the wants of the country. This, at least, is conceded by all practitioners not directly interested in second-rate schools. It might even be added that we have quite enough first-class colleges for the country's physical good. Still, we should hardly be inclined to protest against establishing such new institutions as promised and carried out all the requirements of a higher medical education.

We very much regret that we can find nothing in the announcement of this proposed college at Denver to justify any good wishes for its prosperity.

The prospectus starts out with a discourse upon the evils of a low grade of requirements for medical degrees, and the great detriment which such a low grade causes to the public and profession. This seems promising, but a further examination reveals it to be only a very cheap kind of cant. The college, according to its announcement, will not in reality enforce a single one of these higher educational requirements. It establishes a graded course, but this, we are informed, is not obligatory. It expects a matriculation examination, but only on the most elementary subjects. It has a three years' course, but requires attendance only on two full courses, which might both be attended within eighteen months for all that the regulations say to the contrary. The college is, in fact, judging by its announcement, to be one of the same easy going diploma manufactories with which our country is already flooded.

The excuse given for its existence is the fact that

Denver is the centre of the far West, that it has forty thousand or more inhabitants, a salubrious climate and surroundings of the greatest scenic grandeur.

Of course this all sounds very well, but then everybody knows how little it means. Perhaps we should not find fault that a desire for professorial prominence animates the Western as well as the Eastern mind. But we wish that with this ambition there were exhibited a little more frankness and a little more evidence of a wish to educate the medical student as well as to elevate a few medical practitioners.

Suggestions Regarding Hypodermic Injections.—Dr. C. Mason, of Peekskill, N. Y., suggests to those who use the hypodermic syringe, that when the packing on the piston becomes worn and loose, and will not readily work, to remove the small nut at the end of the piston, take half of the packing off (it is usually in two parts), and place between them a piece of chamois-skin. Cut it round, leaving it somewhat larger than the packing. He says: "It will absorb water, swell, and completely fill the barrel of the syringe. A trial of this will convince the most sceptical of its value over all other devices to do away with the most annoying features connected with the use of the hypodermic syringe, for who has been so fortunate as to have their syringe always in working order?

"Now, as to the solution (Magendie's)—Who can say that they can prevent a sediment from forming when it has been made for a number of days? Many drugs have been named, but they are either objected to for their nature, or else they fail to preserve the solution. I can see no objection to using a fresh solution instead of a stale one. To accomplish this, make it at the bedside as follows: After determining the quantity of morphia for the case at hand, plunge the syringe (minus the needle) into water, and draw up as many minims of water as it has been determined to give minims of Magendie. Place this amount in a teaspoon, and add sulphate of morphia until it will take up no more. After the solution is completed put, say, five additional minims of water to it, stir, and be positive that all the sulphate is dissolved. The only disadvantage which may be expected is the possibility of an excess of acid in the preparation of the sulphate. But even this is extremely doubtful, and, if it were the case, the result would be of no moment, owing to the smallness of the dose. After practising this for a while, one becomes so accustomed to it that it can be done very quickly, and the difference in time is fully compensated for by the result. The air which is apt to collect in the syringe is readily expelled by holding the syringe perpendicular, with the needle upward. The liquid will gravitate to the bottom, and the air will be expelled by simply pushing upward the piston until the fluid is seen to pass from the point of the needle. The number of abscesses which follow the hypodermic use of morphine will, I think, diminish if this method is used."

Precocious Menstruation.—B. F. Zeller, M.D., Beamsville, Ohio, reports the following facts of a case of precocious menstruation:

"The child is now five months old, and began menstruating at the age of two months. It has now menstruated three times at regular intervals of four weeks, the menses lasting from three to four days. The parents came to me for advice, but as the child is very healthy there is nothing to be done. Bedford, in his work on obstetrics, relates a case where the child was as young as twelve months—reported by Dr. Rowlett, of Kentucky—but does not seem to place much faith in it."

A New Method of Combating Insomnia.—Professor Hoppe, in the *Journal d'Hygiene* (April 7, 1881), mentions a plan of treatment of insomnia which he has frequently found successful. It consists simply in rapidly closing the eyelids, twenty or thirty times in succession, and thereby causing fatigue of the depressor palpebræ muscles; this will be followed in a few seconds by an irresistible desire for sleep. The professor recommends this treatment more especially in that form of insomnia which accompanies nervous disease.—*Cincinnati Lancet and Clinic*, July 30, 1881.

This suggestion must be the remembrance of a grandmother's advice. Certainly in Virginia, we have heard of it "from the time before the war." "Several" of our patients have faithfully followed the directions—in substance like the above. Some have and some have not got the "rest" desired. But in view of "the method," we will recommend it again.—*Virginia Med. Monthly.*

What is Adulteration of Food.—A recent decision in a case of alleged adulteration of buttermilk is of interest in connection with our present new adulteration laws. The judge in this case quashed the indictment (which was for watering the milk), and defined adulteration as the addition of some unwholesome ingredient for the purpose of cheating, by making the purchaser pay more than it was worth.

Science and the Hatters.—In accordance with the principles of evolution and the development of society, human heads should be getting bigger. But according to the hatters the contrary is the case. In a letter to the *Lancet*, Mr. W. H. Smith says:

"Hatters have discovered that the human head is decreasing in size. From practical experience they can testify that hats are made of a much smaller size at the present day than they were twenty-five or fifty years ago.

"In a body of men like our soldiers and police the sizes run very small in many instances, although in these cases the men are often tall and well proportioned. The sizes of the heads of professors, doctors, etc., are always larger than those of the general public. Burns had a head of 7¼ inches in size. Formerly the size of the hats sold was frequently from 7¼ to 7⅜ inches, whereas now the average demand is for hats from 6¾ to 6⅞ inches. What is the cause of this? Perhaps some members of the medical profession may be able to throw some light upon this important question."

A New Binaural Stethoscope has been presented to the Academy of Medicine by Dr. Constantine Paul. The chest-piece is surrounded by a circular box which is connected by a tube with an india-rubber ball. Upon aspirating with the ball the box, when placed upon the skin, adheres like a cupping glass, and the rarefaction of the air in the circular sucker is said to increase the intensity of the sounds. The instrument is completed by a Y-shaped metallic branch which emerges from the apex of the chest-piece, and which terminates in two flexible tubes for insertion in the ears. Another novel arrangement which can be made in the apparatus is the addition to each terminal tube of a secondary dichotomous metallic branch, to which are again attached a couple

of terminal tubes. The further development of this system of dichotomous branching enables any number of auscultators to listen simultaneously to the same sound.

ANTISEPTIC SURGERY is gradually gaining favor amongst French operators; but an occasional manifestation against it is made by some of the older members of the profession. At the Société de Chirurgie, M. Boinet has recently returned to the same objections that were advanced some two years since by M. Lucas-Championnière. In the first place, he claims that the credit of the application of carbolic acid in surgery is not due to Lister, but to the French school, and having demonstrated this, presumably to his own satisfaction, he goes on to affirm that antiseptic surgery is both useless and dangerous. This is attempted to be proved by two facts. On one occasion M. Boinet used antiseptic dressings in a case of ovariotomy, and the patient died, "probably on account of the irritation of the peritoneum by the carbolic acid."—*Correspondence London Lancet.*

OBLIGATORY VACCINATION IN FRANCE.—After long discussion, the French Academy has adopted the following conclusions:

1. The Academy deems it urgent, and of great public interest, to enact a law rendering vaccination obligatory.

2. As to revaccination, it should be encouraged in every manner, and even imposed by administrative regulations where it is possible, especially by municipal authorities, wherever the physicians appointed by the state during the prevalence of epidemics, or the boards of health, have called attention to the necessities of this obligation.

Moreover, the Academy expresses the hope that isolation of patients affected with variola, especially in hospitals, be ordered by special legislation.

WHAT COFFEE WILL DO.—According to Dr. Bock, of Leipsic, coffee and tea are the chief causes of the nervousness and peevishness of our time.

Dr. Henry Segur takes the opposite ground, and enumerates the blessings which the infusion can produce.

It is a mental and bodily stimulant, assisting to convert the blood into nervous tissue, and thus recruit the nervous moving and thinking faculties.

It lessens the waste of tissue, and thus lessens the amount of food necessary to support the system.

It will often cut short and cure attacks of intermittent fever.

In typhus fever it increases the excretion of urea, and so far purifies the blood without increasing tissue metamorphosis.

It tends to lessen coma and low delirium. It is Dr. Segur's chief reliance in yellow fever.

It is useful in spasmodic asthma, whooping-cough, and hysterics. It is a diuretic in cardiac dropsy. In opium-poisoning its efficacy is well known.

After a heavy meal it relieves the sense of oppression and helps digestion.

It is a disinfectant and deodorizer.

Habitual coffee-drinkers generally enjoy good health, and live to a good old age.

THE VALUE OF DIGITALIS.—A discussion upon this subject was opened by Dr. H. C. Wood, at a meeting of the Philadelphia County Medical Society, March 23d.

Dr. Wood asserted that digitalis has a peculiar effect upon the heart-muscle, steadying it, and improving its nutrition. Its use in heart disease is well known. It must sometimes be given in large doses, as much as half a drachm, but small doses should always be tried first. The drug should not be used in aneurism as is sometimes done. It is useful in acute diseases with failing heart, as in the latter stages of pneumonia. In one case of alcoholic pneumonia, the patient's life was saved by giving the drug in ten-drop doses every two hours until the pulse came down from 160 to 60.

As regards the cumulative action, the remedy acts slowly in producing its full effects, and these effects are very permanent. Digitalis acts cumulatively, more especially when it does not affect the kidneys. The practical point is, therefore, to watch the kidneys, and if the urine is not being increased, we may expect a cumulative effect upon the heart.

Digitalis is very useful in syncope and collapse. Inject twenty minims of the tincture, and expect to find the effect in half an hour.

While digitalis cannot be used entirely without danger, it is harmless if carefully administered.

As regards the kind of preparation, he thought the infusion more effective and more generally used, simply because it was generally given in larger doses.

Digitalin was not an active principle, but merely the purified extract, and it was, he thought, unreliable.

ELECTRICITY FOR DYSMENORRHŒA AND THE UNDEVELOPED UTERUS.—Dr. J. Dixon Mann reports (*Lancet*) cases of dysmenorrhœa of "neuralgic" or spasmodic origin, cured by use of the constant current of about twenty cells. This was used for ten minutes three times a week.

By persistent use of the same agent, an undeveloped uterus, 1¾ inch long, grew to the length of 2¾ inches. The patient, a girl of twenty years, then began to menstruate for the first time.

THE MEDICAL CLASS AT THE UNIVERSITY OF BERLIN numbers 576 students. The whole number of students in the University is 3,709.

THE USE OF BOVINE VIRUS for vaccination does not yet seem to make much headway in England. According to the correspondents of the London Medical Journals, the lymph so far supplied has not proved very active. Furthermore, the National Vaccine Establishment has not yet made arrangements to supply the profession with calf-lymph.

All this will seem rather surprising to New York and New England readers, who have long been supplied with reliable calf-lymph, and plenty of it.

MEDICAL SOCIETY OF THE COUNTY OF WESTCHESTER, N. Y.—The annual meeting of this society was held at White Plains, Tuesday, June 21, 1881, when the following officers were elected: President, C. H. Judson, M.D.; Vice-President, R. B. Coutant, M.D.; Secretary, J. Francis Chapman, M.D., Katonah; Treasurer, A. M. Campbell, M.D.; Censors, Drs. Pelton, Linson and Helm; Essayists, Drs. Chapman, Pelton, and Parsons.

WHAT BEER DOES—IN INDIA.—The British army reports from India show that the deaths of those who use ale are twelve in one thousand, just double the natural rate; among those who use porter the death-rate is twice as great as with ale. Dr. Edmunds says in England two barkeepers die to one laborer. The life-insurance tables in that country, carefully kept, show a vast disproportion in the death-rates of moderate drinkers and total abstainers.

# Original Communications.

## METASTATIC PAROTITIS.

By R. C. M. PAGE, M.D.,
NEW YORK.

Case I.—Mrs. E. W——, aged thirty-eight, was admitted to the Woman's Hospital, April 20, 1870, with rectocele and lacerated perineum. Being in fair condition, she was operated upon April 26th. Silver sutures were used to bring the denuded surfaces together.

April 27th.—Patient came out from the ether badly, and is still restless and uneasy. I gave her, at 10 P.M., sol. morph. Magendie, gtt. x. hypodermically.

April 28th.—Patient rested badly and has no appetite. Vomited at noon. At 2 P.M. she was seen by Drs. T. A. Emmet and J. G. Perry, and all agree that the vomiting was probably due to the morphine. Pulse, however, 110 and excited; temperature, 100° F.; respiration, normal. Ordered bits of ice and cold tea, in small quantities for thirst, and beef-tea as nourishment. Complains of no pains.

April 29th.—Patient was very uneasy last night. Vomits at intervals to-day. Brandy and beef-tea given per rectum. This afternoon there is pain in right jaw, and upon examination *the right parotid gland is found to be slightly swollen.* Pulse, 115; temperature, 101° F. Patient was now questioned in regard to mumps, and she stated that, as well as she could remember, she once had mumps on the left side, but did not think that she ever had it on the right. The case was therefore thought to be probably one of mumps occurring just at the time of the operation, although the coincidence was regarded as a very curious one.

May 1st.—Patient has steadily grown worse. Seen to-day by Drs. T. A. Emmet and John H. Ripley, and the parotitis is regarded as metastatic. The sutures were carefully removed and the parts thoroughly cleaned with carbolic lotion. Enemata of quinine, brandy, and beef-tea given.

May 2d.—Prof. W. H. Van Buren was called in consultation, and saw her at 2 P.M. He considers it "an isolated case of rapid blood-poisoning." Same treatment to be continued. Parotid gland now much swollen, so that patient cannot open her mouth sufficiently to protrude her tongue. Sordes about the teeth. Pulse, 160; temperature, 102° F.; respiration, 12. Muttering delirium. She gradually sank, and died on Tuesday, May 3d, at 12.50 P.M.

Autopsy by Dr. Francis Delafield showed all organs healthy except the following, viz.:

*First.*—Left lung compressed; bronchi thickened and contained muco-pus.

*Second.*—Intestinal mucous membrane much congested, probably from medication.

*Third.*—Right parotid gland the seat of suppurative inflammation, with about half-teaspoonful of pus present.

Case II.—Miss U. R. C——, thirty-four years of age, was admitted to the Woman's Hospital, October 6, 1870, with retroversion of the uterus, with endometritis and dysmenorrhœa. Treated with intra-uterine applications of carbolic acid and glycerine (℥j.—ʒj.), and warm vaginal injections.

November 16th.—Patient is just over menstruation, which has been attended with less pain than for years.

November 23d.—Seen by Dr. J. C. Nott, who placed the uterus in position and introduced a retroversion pessary.

November 26th.—It being an unusually fine day, and the patient much improved, I unfortunately yielded to her request to attend a matinée at the Academy of Music. Upon her return she felt quite well, but at 8 P.M., complained that the pessary caused her pain. It was therefore removed.

November 27th.—Patient did not rest well last night, and has chilly sensations to-day. Pulse 90, but excited. 8 P.M.—Complains of aching pains in hypogastric region.

November 28th.—Patient rested badly last night, and to-day has irritable stomach. Vomited at 8 P.M., and seen by Dr. Nott, who orders hot poultices over abdomen and sol. morph. Magendie, gtt. x. hypodermically. Beef-tea as nourishment.

November 29th.—Patient rested quite well last night, and feels better to-day. Pain and tenderness in hypogastric region much less.

November 30th.—Patient appears comfortable. Rested well last night. Pulse, 86; temperature, 100° F. Seen by Dr. T. A. Emmet. There is no pain or tenderness under pressure over the whole surface of the abdomen, and she is thought to have escaped what threatened to be an attack of peritonitis.

December 1st, 7 P.M.—Patient appeared to be doing well, but complained of pain in left cheek. Upon examination, *the left parotid gland was found to be slightly enlarged, red, and painful.* Stated that she had always thought she had mumps once, but concluded that she must have been mistaken. Ice applied gave much relief. Although the patient appeared to be really convalescent, I nevertheless felt misgivings at the appearance of the "mumps," and I determined to call in some of the consulting staff next morning.

December 2d, 1 P.M.—Pulse, 86; temperature, 102° F.; respiration normal. Left cheek much swollen and painful. *Right parotid also slightly enlarged.* Prof. T. M. Markoe now saw her, and relieved me very much by concluding that it was a severe attack of mumps.

December 4th.—Patient rested well last night with sol. morph. Magendie gtt. x. Pulse this morning, 82; respiration, 19. Skin pleasant. Temperature, 99¼° F. She feels much better and swelling subsiding. Dr. Markoe saw her again; also Drs. A. C. Graham and J. C. Nott. Diagnosis of mumps confirmed. Although it appeared that I had made an unnecessary stir by calling a consultation in a case of mumps, I, however, consoled myself with the idea that, if it should prove to be another case of metastatic parotitis, I had certainly lost no time in calling attention to it.

December 5th.—Did not rest well last night. Pulse, etc., the same. No pain except in cheeks, and, owing to difficulty in swallowing since Saturday, she has had enemata of beef-tea and brandy. 7.30 P.M.—Sol. morph. Magendie, gtt. x., given hypodermically. At 10 P.M. I was hurriedly informed by Assistant House Surgeon A. C. Graham that the patient was not breathing. The œdema was extensive in the neck and about the region of the glottis, and she had gradually become asphyxiated. No pulse at the wrist, but the heart still beating rapidly, though feebly. Drs. T. A. Emmet and George A. Peters were sent for, but before they arrived the patient had been restored to consciousness by shifting her position, artificial respiration, etc. It was therefore decided not to perform tracheotomy at present.

December 6th, 9.30 A.M.—Patient rapidly growing worse. Pulse 150. Both parotids enormously swollen. There is also a swelling in left arm, subsultus tendinum, muttering delirium, etc. She died suddenly at 12.30 P.M.

December 7th.—Autopsy by Dr. Francis Delafield revealed acute diffuse peritonitis, with copious purulent exudation. Both parotid glands the seat of suppurative inflammation, with the presence of a very small quantity of pus. Metastatic abscesses in other organs, and one in left arm. Atheroma of aortic valves.

CASE III.—Reported by Dr. W. H. Johnston (formerly of this city, now of Selma, Ala.), in the *American Journal of Obstetrics*, vol. iii., p. 318, 1871. A boy, aged seven, who had always been healthy, went to school on Monday morning, April 11, 1871, apparently well. The mother states that in the afternoon of same day he complained of being chilly. Restless during the night, and had some fever.

April 12th.—The mother states that patient has no appetite, and she noticed to-day a swelling below the left jaw, attended with pain.

April 13th.—Mother states that little or no change occurred until this afternoon, when he vomited a greenish fluid. She then sent for Dr. Johnston, who now saw the patient for the first time. Found his face flushed, tongue slightly coated, left tonsil red and swollen, and some pharyngitis present. Patient could not open his mouth wide by reason of the swelling below the left jaw, which was concluded to be due to *inflammation of the parotid gland*. Temperature increased, but not to a remarkable extent. Pulse 112, full, and hard. Respiration normal. Complained of pain nowhere except when the swollen gland was touched. Had never had mumps. Pressure with both hands over entire surface of abdomen unattended with pain or tenderness, and there was no tympanites. Heart and lungs normal.

April 14th.—Vomited a greenish fluid this morning. Rapidly sank, and died at 2 P.M.

Autopsy by Dr. W. H. Johnston, twenty-one hours after death, in presence of Drs. John H. Ripley and Frank Deems (the latter now of Augusta, Ga.). He was astonished to find acute diffuse peritonitis, with copious exudation of pus. Intestines much congested, but not perforated, as was proved by inflating them with a Davidson's syringe, the nozzle of which was introduced into the rectum. Liver normal. The swelling in the neck was cut into, and found to be the *left parotid gland;* no pus in it. No abscesses discovered in any of the other organs.

The boy was sick only *three days*, complained of *no pain* about the abdomen, except when the bowels, which were regular, moved on Wednesday; and he was up and walking about six hours before death.

CASE IV.—History at present incomplete. On Tuesday, October 29, 1878, while in Vienna, I visited the General Hospital, and went through the puerperal fever ward, with Professor Gustav Braun. Among the patients in this ward I noticed a woman about twenty-five years of age, who had *swelling of the right parotid gland*. Professor Braun informed me that it was of rare occurrence; but, as affecting the prognosis, "It is very bad," said he, with a shrug of the shoulders, "and they all die, I believe." She died in a few days. No post-mortem notes in my possession at present.

CASE V.—History furnished by Dr. John H. Ripley, New York. Mrs. B——, aged thirty-five years, during the seventh month of pregnancy, was seized with convulsions on the morning of September 23, 1879. She had four convulsions in all during that day. Urine was found to contain hyaline and granular casts, and to be highly albuminous. From this time until the 25th September she had irritable stomach, rapid pulse, and temperature slightly above normal, but no more convulsions. She was delivered of a dead fœtus in the afternoon of the 25th, without any further unfavorable complication. The case now appeared to progress favorably, except that the pulse was rather rapid, and temperature varying from 101° to 102° F. No perceptible change occurred until the morning of the 29th, when the *left parotid gland became swollen and tender*. I at once concluded that it was a metastatic inflammation, my attention having been first called to the serious nature of this complication in practice by Dr. R. C. M. Page, in 1870. The lochial discharge was normal, and there were no evidences of pelvic trouble. During the evening of the same day the *right parotid gland also commenced to swell*. Meanwhile the other had enlarged so as to very much disfigure her appearance. Dr. W. R. Gilette now saw her, and the diagnosis of metastatic parotitis was confirmed. From this time on the symptoms rapidly became more alarming. Pulse, 156; temperature, 102° F.; respiration varying. Her mind became clouded, and this was followed by muttering delirium. Although the swelling of both parotid glands had now become rather diminished than increased in size under the influence of hot poultices, she sank rapidly, and died on the evening of September 30th. Subsequent to the miscarriage the urine was normal in quantity, and contained less albumen. No autopsy.

CASE VI.—John Goldbach, aged twenty-one years, laborer, was admitted to the St. Francis Hospital, New York, in the service of Dr. George F. Shrady, June 6, 1881. Had always been healthy until May 27th, when accident occurred. While engaged in putting a belt on a wheel with a stick, the latter was caught, and struck him on the abdomen, about three inches to the right of and below the navel. He was knocked down, and immediately began to suffer great pain, which, however subsided in a short time, and no severe symptoms occurred until two days afterward, when a localized peritonitis began. When admitted he was suffering from general peritonitis. Patient was kept under the influence of morphine, hypodermically administered. Respiration, 14. Condition remained unchanged until June 20th, when the *left parotid gland commenced to swell*. Hot poultices were applied, and in a few days the swelling commenced to subside.

June 24th.—Patient appears to be improving, but has some diarrhœa.

June 26th.—Patient growing worse; pulse rapid and feeble; temperature, 102° F. Over the site of the contusion the abdominal walls had become thinner, by pressure from an abscess, which, July 4th, perforated the intestine. He died July 6th. No post-mortem notes furnished.

Inflammations of the parotid gland may be divided into four classes: 1, traumatic; 2, idiopathic; 3, symptomatic, and, 4, metastatic. Of the first two I shall not speak; of the last two I would designate as *symptomatic* those cases of parotitis which are mentioned by various authors as appearing in the course of *infectious* diseases, in which the cause is often probably due to the infection itself; and as *metastatic*, those in which the parotitis is a secondary complication, following injuries, surgical operations, and acute inflammations, with purulent exudation, as described in the foregoing cases. In these the

cause is probably due to *embolism*. Such theories as the absorption of pus into the blood-vessels, the purulent diathesis, the retrograde metamorphosis of fibrin into pus, the influence of nervous action, and absorption by the lymphatics, have all been discarded by scientific men as causes of these secondary complications. Veins, however, surrounded by tissues that are undergoing inflammatory processes, have formed in them, under certain predisposing conditions, coagula that are presumed to be septic in their character. These clots in turn become disintegrated, and the débris thus formed is carried along in the general circulation until it lodges somewhere. As a result, local irritation, followed by inflammation, occurs. If the patient lives long enough, the inflammation generally becomes suppurative. Occasionally there is such obstruction in the minute blood-vessels that gangrene of the part obtains. How these disintegrated clots sometimes get through the liver or lungs, or both, without injury to those organs, and finally lodge and produce metastatic inflammation somewhere else, is not clearly explained. In such cases it may be that the septic material does not possess sufficient malignity to affect the liver or lungs, while it would cause inflammation in other more sensitive parts. But, however this may be, or whatever be the true theory of blood-poisoning adopted, the practical fact remains, that metastatic inflammation may, and does, occur while the liver and lungs are normal. The embolic theory probably explains why autopsy revealed but a very small quantity of pus in two of the foregoing cases, and its absence altogether in one. In the latter case the patient died before suppuration commenced, and in the other two the suppurative process appears to have just commenced. Had pus been absorbed into the blood-vessels and deposited in these glands, it would probably have been found in all. In regard to *which* of the parotid glands is most frequently the seat of metastatic inflammation, statistics appear to be wanting. If we include the case of President Garfield, in which the right parotid gland is affected, we have out of seven cases the right parotid gland affected in three, the left in two, and both in two. The number of these cases is not sufficient to warrant any conclusion on this point, but theoretically I should regard the right parotid gland as liable to be more frequently affected, as the septic material would pass in a more direct course from the heart to it than to the left.

As affecting the prognosis of a case, authors agree that the appearance of parotitis, in the course of infectious diseases, forms a grave and very unpleasant symptom. As a metastatic affection, especially when secondary to peritonitis, I regard it as certainly a very serious, if not a fatal complication.

31 West Thirty-third Street, New York,
August 30, 1881.

A New Gaseous Disinfectant.—M. Peyrusson has communicated to the Académie des Sciences the result of a series of experiments made with the fumes of nitrous ether. From these it has been demonstrated that they possess a most manifest disinfectant and anti-putrid action.

In addition to the trials made with in the laboratory, it has been employed in the hospitals of Limoges. This agent has successfully purified the wards. It has also been used to preserve cadavers.

This ether offers another advantage; its odor is mild, agreeable, and entirely inoffensive.—*Monthly Review of Medicine and Surgery.*

## THE PHYSIOLOGICAL TREATMENT OF PNEUMONIA.

By J. TURNER EVERETT, A.M., M.D.,

SANDUSKY, O.

During the progress of the late animated and somewhat heated discussion of the subject of venesection as a therapeutic agent in the treatment of pneumonia there has been elicited many interesting and instructive facts. In all this correspondence nor in any text books which I have consulted has there been any mention made of a plan upon which I stumbled several years ago, and which, in my hands, has served the purpose of all the antipyretics, without any of their dangers, and which acts promptly and certainly upon the diseased tissues, without involving systemic or organic complications. Omitting all discussion of the etiology or pathology of pneumonia, or meandering among the myriad mythical distinctions of kind, type, and stage of invasion, I will at once give the particulars of what I have styled *my method;* for, although I have seen no mention made of this ideal in the literature, yet, the more one contemplates the simplicity and the rationality of the theory, the more one is struck with wonder that it had not been pursued centuries ago.

In nearly all tissues where the danger depends upon high temperature, and the consequent destruction of functional activity, the direct abstraction of heat has been the first step in therapeutics. This by the application of cold directly to the invaded part, or in its nearest possible neighborhood. Thus, in cerebritis, the ice-cap; in spinal congestion, ice-bags along the region of invasion, etc., *ad infinitum*.

It is universally conceded that the danger in pneumonia consists primarily in the pulmonic engorgement, and that the remedy lies in decreasing the blood-pressure in the tissues, either by reducing the force and frequency of the heart-beat, by lessening the contractility and tonicity of the vascular walls, or by decreasing the amount of blood in the general system.

All of these and each of them produce the same general result, only differing in the rapidity and certainty of action. If cold acts as a sedative and as an astringent upon capillary vessels, and as an abstracter of heat, why not apply cold directly to the seat of primary invasion in this as in other congestions? The truth of this proposition will doubtlessly be readily admitted, but the query will arise, how shall we apply a cold bath to the lungs? We cannot use cold compresses over the chest, for fear of increasing the congestion by driving the peripheral blood into the already engorged lung, neither is the general use of the cold bath advisable for the same reason. The solution of the difficulty, then, lies in applying the cold directly to the mucous surfaces of the air-passages of the lungs, to their finest and most distant ramifications, by *means of inhaling cold air continuously*. I say continuously, for the interrupted use of cold air, like an interrupted cold bath, would act as a stimulant instead of a sedative, and thereby augment the difficulty we seek to control. While the patient is inhaling the cold air, the temperature of which should range from 10° F. to 15° F., the room in which the patient lies should be kept at a temperature of from 80° to 85° F. Thus the afflux of blood is changed from the central organs to the peripheral. The cold air, coming in direct contact with the tissues of the pulmonic parenchyma, abstracts heat from the blood by coming in such

close contact with it over such an extensive area, being in the bronchioles, as you know, separated from actual contact only by the thin cells of the pavement or tessellated epithelium, where each globule of blood and atom of serum is subjected to a direct refrigerating influence, which can be observed and controlled with the most exact and satisfactory results. By carefully noting the external temperature and that of the patient, this abstraction of heat can be regulated with the utmost nicety and precision—can be commenced or stopped instantly, without prostrating the nervous system by sedatives or narcotics, and without the loss of blood.

This cold air in thus coming in contact with the lung-tissues causes contraction of the vessels, thus lessening the amount of blood admitted to the lung-tissues, and by its constringing influence tends to drive out that which has become partially deposited by the stasis, while by increasing the oxygenation of that already admitted it hastens resolution. The increased heat of the air surrounding the patient favors copious perspiration, thus, by the evaporative process, favoring the additional abstraction of heat. Of course, we must keep in view the fact that this agent, like venesection, veratrum, or any other antipyretic, would be useless after stasis occurs, and should therefore, like them, be used only during the stage of hyperæmia.

Fortunately for the more perfect employment of this remedy, Nature has provided us with a boundless supply, and as the great majority of the cases occur in the colder months, we have only to connect the lungs of our patient by means of an elastic tube, of sufficient calibre, with the external atmosphere, and we have the remedy in unlimited supply. In treating the few cases which might occur during the warmer months, the air should be drawn through a refrigerator. This being charged more or less with aqueous vapors, would not be quite so effective and pleasant as the clear, dry, cold air of winter, yet would serve a very useful purpose, and produce the same general effect.

Case I.—In December, 1877, was called to see Mrs. B——, who resided ten miles in the country. It was an intensely cold day, with snow driving fiercely from the northwest, the mercury standing six degrees below zero. As I approached the shanty, I wondered that people could live in such a habitation at all on such a day. Found Mrs. B——, a pale, anæmic woman, of thirty-eight years of age, lying upon a bed in the corner of the only room in the shanty, with the snow and wind surging furiously over and around her. Examination revealed the following symptoms: temperature, 105° F.; pulse, 135; respiration, 36 per minute; short, dry, hacking cough; no sputa; pain over left nipple; one cheek pale, while the other was suffused with a hectic flush; crepitant râles over lower half of left and third of right lung; dulness well defined. With these unfavorable symptoms and surroundings the prognosis could not be otherwise than grave. Left the following recipe, and promised to call the following morning:

℞. Ammon. chlorid..... ʒ ij.
Antimon. et pot. tart.. ..... grs. ij.
Morph. sulph..... grs. iij.
Tinct. verat. virid..... ♏ j.
Spts. etheris nitrosi..... ʒ iv.

M. S.—Teaspoonful every two hours in a little sweetened water.

Upon my return the following morning, found patient very much better than could have been expected. A roaring wood fire only served to modify a portion of the cold air which swept in with great violence through the many apertures.

Cases II. and III.—My attention was now called to a little girl and boy, aged respectively seven and eleven years, who were lying on the same bed with the mother, and who each had the almost pathognomonic dry, hacking cough of commencing pneumonia. Inquiry elicited the fact that they had both suffered from violent chills during the nights, which had been attributed to the intense cold weather; but the chill had in each case been followed by high fever in the morning. Auscultation revealed crepitant râles and percussion mapped out the exact amount of the invasion in each case. The short, hurried breathing, and the flushed cheeks, showed the intensity of the onset of the disease. These little patients were covered up as warmly as possible, and given the same remedies as the mother, but in modified doses. On my arrival the third day from the commencement of the sickness of the children, and the fourth day of the mother's sickness, to my surprise, found them all sitting up at the table, partaking, with apparent relish, of the ordinary foods.

The recovery of these patients was so rapid, uninterrupted, and unexpected, that I cast about for an explanation of the phenomena. Evidently it could not depend upon their extra hardihood engendered by exposure, for they were of a strumous diathesis, and rather below the average of poor, ill-nourished people, and the mother in particular, worn down by over-work, exposure, poor food, and excessive child-bearing, was extremely cachectic and anæmic.

Ruling out all other factors, the query arose, was it not the *cold air* which was continually admitted to the lungs of these patients, which had acted so profoundly, promptly, and beneficially in thus cutting short the grave symptoms of this disease. At this conclusion I at length arrived, and determined to test the truth of the theory upon the first opportunity.

Case IV.—A few weeks later, was called to see a patient—a plethoric son of the "Emerald Isle"—in the first stage of pneumonia, with the following symptoms: Pulse, 120; temperature, 103° F.; respiration, 22; flushed face and hacking cough, no sputa. Physical examination revealed dulness over middle third of right lobe of lung, with faint crepitant râles. Decided to test the theory in this typical case, I instructed his wife, a more than usually trustworthy and intelligent Irish woman, to keep the temperature of the room at 85° F., day and night, and to keep him covered with flannel sheets. At once procured a piece of one and one-fourth inch rubber tubing, several feet in length, and, boring a hole through the window sash at the head of his bed, inserted one end of the tube, while the other end, fitted with a proper face-piece, was given to the patient, with instructions to breathe only air from the external atmosphere, it being at 10° F.

Eight hours after completing this arrangement I returned, and found that although the only medicine which the patient had taken was a one per cent. solution of ammonic chloride, a teaspoonful every three hours, the temperature had fallen to 99.5° F.; the pulse was 76; and respiration 20. The face was pale and the body covered with a profuse perspiration. Dulness on percussion less distinctly marked and the crepitant râles changed to a moist vesicular murmur, audible during the expiratory as well as during the inspiratory act. Instructed the

nurses to pursue the same course of treatment, and left, promising to call next morning. Owing to unavoidable delay, did not see the patient till the afternoon, when I found him quite feverish, expectorating white viscid sputa slightly tinged with blood. I learned that at bedtime the previous night, patient had felt so much better that the nurses had been dismissed, and the wife had retired and allowed the patient to control his own inhalations of *cold air*, and that falling asleep the face-shield had become disarranged, and he had for some hours breathed the heated vitiated air of the sick room. Awakening near morning with a feeling of chilliness he had covered up more warmly, but had neglected to use the *cold air* tube until the fever again appeared, when he bethought himself of his carelessness and the tube was again brought into requisition.

The wife upon awakening and finding the patient in this condition, at once built up a hot fire, and on my arrival I found the patient much easier and less feverish than the condition in which they found him at sunrise. Advising them to be more careful in the future, directed a continuance of the same course until the next morning, unless symptoms should demand a change, in which case I was to be summoned at once. On visiting my patient the morning of the third day, found the temperature below the normal of health. Vesicular murmur clear over entire normal surface and no dulness. Pulse soft, skin moist, and patient comfortable.

From this time on the patient made rapid and perfect recovery. His only medication, strictly speaking, consisted of twenty grains of ammonic chloride in water, its administration extending over a period of seventy-two hours.

Case V.—Was called, January 3, 1879, to see C. W——, laborer, aged thirty-eight, full habit and ruddy complexion. Found him with temperature of 104° F.; pulse, 120, hard and bounding; respiration, 25, labored and accompanied by dry hacking cough. Considerable pain near right nipple, slight dulness on percussion and crepitant râles.

The chill had occurred early in the night, soon followed by a high fever. Prescribed the following:

℞. Ammonic chloride..... ʒ j.
Morphia sulph..... grs. ij.
Syrup glycerrhiza..... ℥ iv.

M. S.—Teaspoonful every hour until pain ceased and cough lessened and became more soft and moist.

I arranged the apparatus for the inhalation of *cold air*, the mercury standing outside at 0° F. The room was then heated to 85° F., and patient left with directions to continue treatment until the next visit. The following morning found the temperature had fallen to 98.5° F., the pulse soft and compressible, beating eighty to the minute. The respiration was still short, but painless, the dulness was circumscribed and the crepitant râles had changed to a moist rhonchus. Continued the same medication and directed patient to inspire warm air in combination with the cold, gradually lessening the amount of the cold until he breathed air at a temperature of from 65° to 70° F. On my next visit, the following morning, found patient sitting up and feeling very much better. From this time on patient made rapid and complete recovery, complete resolution being fully established by the tenth day from the onset of the disease.

Case VI.—On January 25, 1880, was called early in the morning to see Larry O——, laborer, aged forty-two, who had been working in a brewery and had "taken a heavy cold." Patient after a very hard day's work, and retiring very much fatigued and prostrated, had been awakened in the night by a chill; took some hot drink and retired again, but was soon in a raging fever. Found patient with flushed face, with high fever, short of breath, and making great complaint of the pain in the chest. Temperature, 102° F.; respiration, 28; pulse, 116. Dulness over lower half of right lung with crepitant râles. Ordered,

℞. Tr. veratrum viride..... ʒ j.
Tr. opii. camph..... ℥ ij.
Spir. ether. nitrosi..... ℥ ij.

M. S.—Teaspoonful every thirty minutes until fever subsided.

This family was so very stupid I did not dare rely upon the *cold air* bath, well knowing that no directions could be implicitly complied with.

Case VII.—On leaving the shanty of Larry O——, was called across the street to see Frederick H——, a German, who worked in the same brewery. I found him with same symptoms as his neighbor, but in an exaggerated form. Dulness over lower third of both lungs, crepitus distinct, shading off toward apex of left lung, cheeks livid, short, dry, hacking cough, accompanied by cutting pain over left nipple. Temperature, 105° F.; pulse, 130, and hard; respiration, 38. At once ordered the *cold air* bath for pulmonary vessels. External air at 0° F., and prescribed the following, viz.:

℞. Tr. opii..... ..... ʒ ij.
Ammonic chlor..... ʒ ij.
Syr. glycerrhiza..... ℥ iv.

M. S.—Teaspoonful every hour till cough and pain subsided.

The following morning visited patients, and found Larry O—— sweating profusely. Had suffered some nausea and great pain, and was exceedingly nervous. Temperature, 102° F.; pulse, 110, weak and intermittent. Dulness increased in area, and crepitant râles changed to coarse moist rhonchus wherever audible over the dull surface. Sputa tinged with blood and debris.

Ordered five-grain doses of quinine alternately with the previous medicine, and advised the free use of iced milk in place of the beer which they had prescribed for the patient. I crossed over to the house of Frederick H——, where I found him very much improved. Temperature, 101° F.; respiration, 20; and pulse 84, and compressible; face pale, and body moist, with copious perspiration. Continued same treatment, and ordered mild, unstimulating food, and increased the interval of the mixture to once in four hours. From this time on Fred made a rapid convalescence, which was fully completed by the twelfth day.

On the contrary, however, Larry O—— continued weak and anæmic, the pneumonic inflammation spreading to left lobe, and worked higher up in the right, culminating at the end of the first week in the suppurative stage, which left the lung in a bad condition, which still prevails.

Patient remained under my medical supervision for some time, and since resuming work has been confined with several attacks of lung trouble, there now remaining a large surface of dulness with contraction of thoracic walls.

Case VIII.—I was called, March 1, 1880, to see E. R——, a lady thirty-eight years of age, who had taken cold while hanging out clothes. The patient was a frail cachectic person, with hereditary predisposition

to phthisis. Was now complaining of pain in left mammary region, short, hacking cough, and cephalalgia. Temperature, 102.5° F; respiration, 24; pulse, 114. The external atmosphere being at 12° F., I ordered the flexible tube at once, and advised the temperature of the room to be kept at 85° F., and prescribed:

℞. Ammonic chloride..... grs. x.
Syr. glycerrhiza..... ʒ ij.

M. S.—Teaspoonful every two hours.

March 2d, 8 A.M.—Found patient easier. Respiration free and uncomplicated, 18 per minute; temperature, 99.5° F.; pulse, 100. Vesicular murmur fully established, and dulness nearly all gone. The temperature of the inspiration was gradually brought near the temperature of the room, which was allowed to run down to 70° F. From this time on patient improved rapidly, and made satisfactory recovery.

During the time occupied by these investigations, I had other cases of pneumonia, but from their complications and atypical character, they would not serve as good a purpose for clinical study as the above. In no case treated by venesection or by antipyretics have I seen such rapid, certain, and satisfactory results as by the *cold air* bath. These cases, I think, were not exceptionally favorable ones of mild type, but were of average severity, and the results could have resulted from no accidental circumstances, but, I believe, depended directly upon the sedative and contractile effects of the cold air upon the pulmonic tissues. I hope others will test this simple method, and that the result may be as satisfactory to them and their patients as it has been in my experience.

## DENTAL SOUND-TRANSMISSION—THE JAPANESE OTACOUSTIC FAN.*

By SAMUEL SEXTON, M.D.,
AURAL SURGEON TO THE NEW YORK EYE AND EAR INFIRMARY.

MR. PRESIDENT AND GENTLEMEN: The increasing interest manifested in physiological acoustics by otologists during the past few years, has very much quickened the hopes of those who are in a measure cut off from the full benefits of life by impaired hearing; but, although the needs of the deaf have served to stimulate exertions in their behalf, the results attained have not as yet fully realized expectations.

For a long time the ear-trumpet, which simply increases the intensity of sound reaching the ear in the natural way, afforded the only practical means of aiding the defective sense of hearing; but this method has never been received with favor, most persons preferring to conceal their defects by avoiding the conspicuousness attending the use of a trumpet. The conversation-tube, which has been long employed, is of very considerable service for private use; but the deaf find that a great many object to placing their mouth to the aperture of a tube in general use.

Of late, however, it has been found that the teeth afford a valuable medium through which the sonorous vibrations of which sound is composed may be transmitted to the auditory nerve. It has been known for a very long time that musical tones may be heard by the deaf through the medium of a wooden rod connecting a musical instrument with the teeth; but such means were not found to be available for conversation. The dental transmission of speech by means of a vibrating fan has been frequently observed quite accidentally by persons who have placed the edge of a fan to the teeth while others were conversing; but it remained for Mr. Rhoades to make use of this fact in a practical way, by introducing a fan for conversational purposes. My earlier experiences with the audiphone were not encouraging, for it seemed that but few were willing to adopt them on account of their expensiveness, the advantages attending their use being apparently so limited. But now our Japanese friends, who are not slow in adopting useful discoveries from any source, have taken advantage of their great facilities for the production of all kinds of fans, to manufacture a sound-transmitting fan, the low price of which promises to bring it within the reach of all.

The first Japanese product came appropriately enough from the Lakujenqui Society's Institution for the Education of the Deaf and Dumb. It may be of interest, in this connection, to state that this society was organized some three years ago with Mr. Yamao, the Minister of Public Works, as President. Mr. Maye-Shimea, the Postmaster-General, is an active member of the Board of Trustees, as is also Mr. Yegawa Kimihira, the Japanese Consul to New York City, who is present this evening. The deaf and dumb institution founded by this society in Tokio three years ago, was the first of its kind to be established in Eastern Asia. It is free to the deaf and dumb from all parts of the empire, and is supported by the gifts of the founders and by voluntary contributions—their majesties, the Emperor and Empress, having given it their support. It is conducted entirely by the natives; the sign-language has only been taught as yet, although improvements in teaching will doubtless be made in the future.

It is the intention to make this institution self-supporting by the labor of its inmates, and I have the pleasure of showing you to-night the first products of their skill, which have recently been sent to this country by the society's president.

These sound-transmitting fans were placed in my hands soon after their arrival here, a few months ago, by Mr. Kimihira, that their merits might be tested, the trustees desiring to know if their construction is the best that our present knowledge of the subject can suggest, and, also, whether there is likely to be a demand for them in this country.

Having given these fans a careful trial, and finding that some of them - for there are several varieties—are more satisfactory than any sound-transmitting fan yet produced, and deeming them worthy of a further trial by the profession, I have presented them to the society, with some remarks on their use. I may here state that these fans are made of lacquered material; that they have several shapes, and are of different qualities, but not altogether unlike the audiphone, after which they were modelled. The lacquered sheets of which they are made, seem to answer the purpose even better than the vulcanite of which the audiphone is constructed; they are by far the more durable of the two, and much cheaper—the lowest in price being the best. They range in price from thirty-three cents up to three dollars each.

The method of using all sound-transmitting fans is similar: the fan is first bent upon itself so that its surface shall form a curve a little greater than the arc of an ellipse, but not quite equal to the arc of a circle, in which position it must be securely fixed

* A paper read before the Medical Society of the County of New York, June 26, 1881.

by attaching the cords coming from the superior border to a peg on the handle. The curvature should be unchanged while the fan is in use, else the person employing it, not feeling at ease, will fail to obtain its full advantages. During a protracted use of the fan the arm should have a rest, experience showing that those who require its aid are liable to become very nervous, and should not, therefore, have to think about keeping the fan in its place, etc.

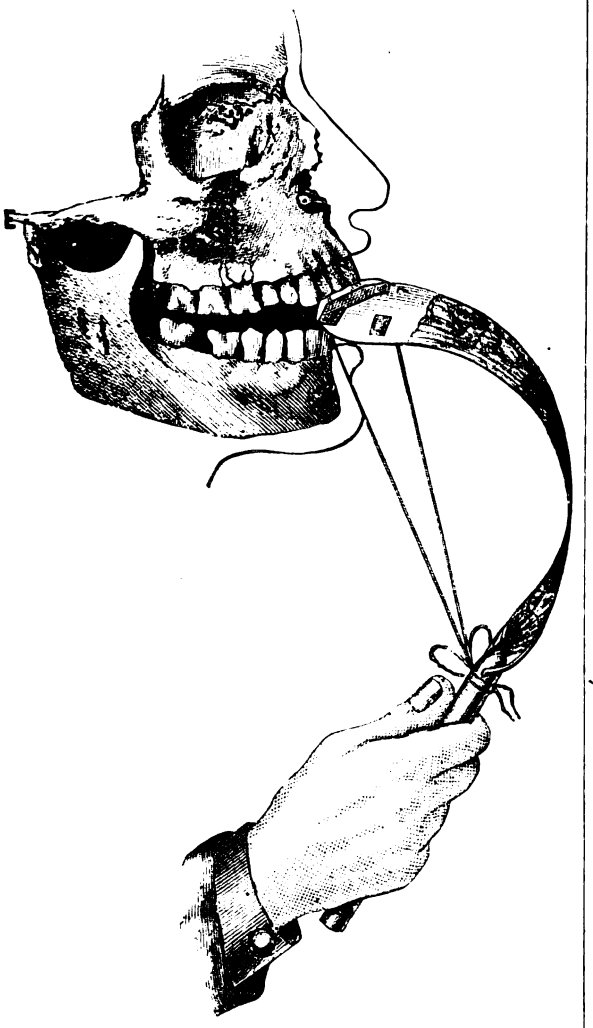


FIG. 1.—Lateral view of the fan when held in position for dental sound-transmission. The dental sound-transmitter, which is attached to the fan in the cut, is somewhat exaggerated in size, and its proper position between the canine and lateral incisor teeth of the upper jaw is not well shown. E. Location of entrance to external auditory meatus.

The fan, when bent as above described, is ready for use. The position of the fan, when its superior border has been placed against the teeth of the upper jaw, is very important. It should be held with its convex surface presenting to the speaker, who will be heard to the best advantage when directing his voice toward it.

Where the teeth are in good condition, the best results are obtained by placing the edge of the fan against either one, or both, of the superior canines, which are a little longer than the incisors, and thus offer the necessary resistance when the fan is pressed upward and backward. Contact with the teeth should be maintained by gentle and uninterrupted pressure while the fan is in use. Too much pressure against the teeth is to be avoided, a neglect of this precaution having resulted in loosening or otherwise injuring the teeth, especially when they are not in a healthy condition. Although the canine teeth afford the best medium for dental sound transmission, good results may be obtained from any of the upper teeth with which contact can be obtained. The teeth of the lower jaw and artificial teeth can be availed of to a limited extent only.

As regards the actual range of usefulness of dental sound-transmission, it may be said that its best results are obtained with those who are unable to hear the voice when shouted, say at a distance of ten feet; such individuals can usually hear words at that distance best with the trumpet, but when the speaker is removed only two or three feet from them, the fan affords the most assistance. The reason for this is apparent when the conditions are considered; for at the distance of ten feet the sound-waves are too feeble to cause effective vibrations of the fan, but they are collected and intensified by the trumpet. In either case the results are not very satisfactory: sound is, indeed, plainly heard, but definition, so to speak, is lost. When the speaker is near, however, the advantages of the fan are apparent; here the trumpet has a disagreeable resonance, while dental transmission, although imperfect, is more natural. The latter method, moreover, possesses an advantage that has not, to my knowledge, been accorded it—I allude to the bin-aural character of its action, the vibrations of sound passing to both ears at the same time.

Some individuals seem to be unable to acquire the use of either the fan or the trumpet. In one instance which I recall, the patient, a lady, could only hear conversation near by when the voice was raised to a loud tone; with the trumpet she could hear conversation when low, but its cumbrousness was an objection to its use. This lady heard ordinary conversation very plainly with the fan, but its metallic timbre was disagreeable, and the voice seemed to produce reverberations in her head; the more distinct my voice was, either by raising its pitch or by a nearer approach to the fan she was using, the more disagreeable it became. She concluded, from these experiments, that hearing in this disagreeable manner would be insupportable, and that it would make her very nervous.

Another patient, who uses the fan constantly, speaks of the nervous symptoms that arise from its use when he is unable to retain it in its proper position with ease, as in long conversations or at church. He can hear much better when not compelled to think about holding it in its proper position.

The fan's advantages, even in very great deafness, are shown in the case of a lady who can only hear words shouted into her ears. Conversation with the fan, however, at the distance of two feet, is readily carried on; at a greater distance, even, she is enabled to retain the thread of conversation, although some of the words may be lost. Like all very deaf persons, she gains much assistance by watching the speaker's lips, and when unable to do this, on account of the distance of the speaker—she is near-sighted—or the want of illumination, the fan is of much less service. By occupying a seat near the pulpit she has the satisfaction of hearing the minister very well. The trumpet aids her rather more than the fan, but she will not use it on any account.

Persons with normal hearing possess the requisite conditions to the perception of sound transmitted through the teeth to a limited extent only.

The *modus operandi* of dental sound-transmission is not unlike that of the normal ear, but it is far from being so delicate. The fan, like the membrana tympani, moves to and fro in response to aërial sound-waves, transmitting the impressions thus received to the teeth, and thence mainly through the intervening osseous tissues to the ear. The sounds that reach the auditory nerve in this manner are more or less modified as compared to normal transmission; the timbre is sometimes described as "metallic." Musical tones, however, seem to be most plainly heard.

FIG. 2.—The dental sound-transmitter is composed of a sheet of German-silver folded upon itself; the free edges are pressed apart to receive the upper edge of the fan. The edge opposite to the above, where the metal is folded, is turned up at an obtuse angle to fit the teeth. There are two holes in this edge for the attachment of the cords.

Osseous transmission is insufficient for the more delicate shades of speech; thus hissing sounds are generally suppressed. But notwithstanding its imperfections, the aid it offers to the deaf is of much service, and I have found many individuals who, by the use of a fan, enjoy a degree of hearing not otherwise obtainable. In these instances, however, the successful use of the fan has been only acquired by the observance of the laws which govern sound-transmission; such a course enables the patient to ascertain just what benefit may reasonably be expected from the method, and to thus avoid the nervousness and disappointment which so often arise from futile attempts to obtain results in their nature impracticable.

These conclusions are somewhat at variance with the opinions I formerly entertained on this subject, but my later experience seems to justify them.

The experiments that I have recently made with Japanese and other fans, have led me to devise a dental sound-transmitter which can be attached to almost any fan. It is so constructed that it may be readily slipped over the upper edge of the ordinary paper-covered bamboo fan, when, by means of the cords fastened to it, the fan may be bent over and secured ready for use. When not in use it can be carried in the pocket. The springiness of the two plates of the instrument is sufficient to retain it securely in its place on the fan. It consists of one piece of German-silver plate folded together, but leaving space enough to receive the edge of the fan between its free edges. The mouth-piece of the sound-transmitter is slightly turned up, which affords a more perfect adaptation to the teeth than the edge of a fan; it also protects the fan from moisture and from injury by the teeth. It is made by Mr. Ford, of Messrs. Caswell, Hazard & Co. It is nickel-plated.

By means of this instrument a great variety of fans become available for the transmission of sound; I have found the ordinary Japanese fan of commerce, which costs but five cents, to answer as well as any other, although not so durable as the Japanese otacoustic fan, which is the best for the use of gentlemen who wish to carry the fan about with them in a special pocket made on the inside of the skirt of the coat. A fan of medium size has been found more convenient than the larger ones.

*Conclusions.*—Dental transmission of sound, for conversational purposes, is of very considerable advantage to a large number of very deaf individuals. Its inconspicuousness gives it a decided advantage over the trumpet.

In most instances it does not convey as great a volume of sound to the ear as the trumpet, but, notwithstanding this fact, most patients prefer the fan. By either method general conversation cannot be well heard, the patient being compelled to confine his attention to one speaker at a time.

In adopting dental transmission as an aid to the impaired sense of hearing, the assistance of some one competent to give instructions respecting the best method of using the fan should be obtained.

And finally, only the limited amount of assistance should be promised which experience has shown to be practicable.

12 WEST THIRTY-FIFTH STREET.

# Reports of Hospitals.

## NEW YORK HOSPITAL.

### REPORTS OF PRACTICE AND PECULIARITIES OF TREATMENT.

BY W. H. DRAPER, M.D., ATTENDING PHYSICIAN.

#### CLINICAL REMARKS ON SCABIES.

GENTLEMEN: The patient whom I present to you to-day illustrates an interesting topic in dermatology.

We may divide diseases of the skin into those dependent upon an internal and those dependent upon an external cause. This distinction is of importance from a therapeutic point of view, and should always be borne well in mind when you meet with such diseases.

Here is a case which depends upon an external cause, and upon one of the most interesting external causes which give rise to skin disease. Such causes embrace all kinds of mechanical, physical, and chemical irritations, inclusive of the parasites which prey upon the human integument. When we come to examine these parasitic causes, we find that they are either of animal or vegetable origin. The cause of this man's trouble belongs to the former class. Those of you who have given any attention to the subject, know the principal divisions of animal parasites; they are pediculi, commonly known as lice, including the pediculus capitis, the pediculus corporis, and the pediculus pubis, pulices, or fleas, acari, or itch-parasites, and cimices lectularii, or bed-bugs. These are the four principal classes, each of which produces its special sort of irritation.

This is a case of scabies, a disease dependent upon the irritation caused by the acarus scabiei—an illustration of what is vulgarly known as the itch. Our patient has been complaining, for a number of days, of itching about the hands and wrists, and around the genital organs. These are the points of

election of the parasite in question. It prefers the delicate skin about the wrists, between the fingers, around the genital organs and ankles, and between the toes. Strange to say, the acarus scabiei never goes above the neck, although there is much tender epidermis in that locality; it also avoids the region of the shoulders. Another curious fact in its natural history is that the perpetrator of all the mischief is the female. The male is produced in small proportion as compared with the other sex, and is mainly obnoxious as a propagator of the species. It is the female that burrows in the skin, producing the peculiar eruption characteristic of the disease, while the male remains upon the surface.

Where the eruption is confined to the wrist or between the fingers and toes, you will see a characteristic form of vesicle. It may not be possible to discover many of these, because the patient, irritated by the intense itching of the vesicles, destroys them by scratching, leaving such an abrasion of the epidermis as you see here. The vesicle is small—not larger, perhaps, than a pin's head—and has running from it a cuniculus or canaliculus, at the bottom of which the insect is found. The vesicle represents the point at which the acarus entered, the cuniculus the long tunnel along which she burrowed her way to the softer epidermal cells, where she laid her eggs, and remained to complete her existence. In order to get at the acarus the vesicle should be opened with a needle, the instrument passed down to the bottom of the cuniculus, and the epidermis torn up. In this manner, you will be able to pick out, at the end of the furrow, a small, white, globular body, not larger than the finest grain of sand, but which, under the microscope, is found to be the parasite. One of the house physicians has picked a number of them out of this man's hand. The discovery of the animal in its nidus is the crucial test in the diagnosis, though the diagnosis can be made by those who are familiar with the disease, by the appearance of the vesicle and the seat of the eruption.

This disease is sometimes the source of an immense amount of suffering, and of an extent of lesion which is altogether disproportionate to the direct irritation of the parasite. The sensitiveness of the integument varies very greatly in different persons; what in one person would remain as a local disturbance, may in others produce general irritation, with an extensive lesion and great suffering. In some delicate, nervous, sensitive organizations, scabies may produce extreme eczema. It produces a degree of itching which is excessive. Scratching provokes hyperæmia, and hyperæmia may end in eczema. I have seen the body literally covered with scabs caused by the dermatitis, which patients have induced by scratching. Scabies therefore often becomes an exceedingly important malady—one which may give rise to an immense amount of trouble, and which no possible internal treatment will benefit.

There is one fact about this malady which is worth bearing in mind: all persons are not equally liable to this form of parasitic disease. Of two persons exposed, one man will acquire it; the other will not. Though the acarus fell upon the latter's hand, he will escape unaffected. This varying susceptibility is a striking feature in the history of diseases arising from animal or vegetable parasites. A parasite, vegetable or animal, in order to live and thrive, requires a proper soil, so to speak; it will not attack that which is not going to support it. This is a fact which is perfectly well recognized in the natural history of animal and vegetable organisms which live at the expense of the epidermis; it probably holds good also in regard to their analogues, the more recondite parasites, whatever these may be, which produce the exanthematous fevers. These diseases also presuppose a certain susceptibility: where this does not exist, no effects are produced; where it does, the effects are more or less modified by the degree of such susceptibility. Of two men exposed to small-pox, one may be stricken down with the malady, while the other remains untouched. The exanthematous fevers are by some supposed to depend upon the invasion of the body, through the skin or lungs, by certain species of fungi or bacteria.

The only rational treatment for this disease is an external treatment designed to destroy the acari. This is one of the diseases in which you may often gain great credit by a correct diagnosis. Scabies often passes for a more serious disorder. I have more than once known it to be mistaken for syphilis. I have seen its victims salivated with mercury, and the cutaneous irritation aggravated by iodide of potassium. Such blunders are by no means uncommon, and none better illustrate the evil consequences of error in diagnosis.

What is to be done for our patient? As the disease depends upon an external cause, an external remedy is indicated. Sulphur, which might be given internally from now till doomsday, without affecting the acarus, applied to the skin, destroys the parasite. Many substances have been used as parasiticides, but the most time-honored is sulphur, of which there are various methods of application. In the olden times of New England, a rather primitive process was resorted to. The patient was put into a barrel with his head sticking out, and there he was thoroughly fumigated. In these days we employ more exact and better procedures. The patient's skin is first softened in a bath; then, to soften it still more, he is rubbed down with soft soap. After being washed with soap and water and dried, he is rubbed everywhere with sulphur ointment. This application must be made to all parts of the body except the head and neck, not simply where the eruption exists; for, if it is confined to the seat of invasion, the treatment will probably fail. The wandering parasites, as well as those that are domiciled, must be killed—males, females, and ova must be destroyed. This necessitates a free opening of the pores by the use of soap and water, and a thorough application of the remedial agent to all parts of the body except those never visited by the acarus. The patient is then dressed in flannel, put to bed, and allowed to sleep till the next morning, when he washes and puts on clean clothing. Probably by this one application he will have been cured; but, to make assurance doubly sure, it is well to direct the patient to take this bath and employ the ointment for three nights. Strict directions as regards the clothing should be given, as the parasite may still linger there to attack the patient when he again puts on his garments. Wearing apparel should be fumigated with sulphur vapor, and thus be rendered safe.

This may seem an unimportant malady to students, but its victims look at it in quite a different light. It is certainly a disease worthy of attention, and the cure of a case which has resisted the treatment of other physicians, through an erroneous diagnosis, always confers a just credit upon the successful practitioner.

It is a curious fact in the history of this disease,

that, long before it was known to depend upon the presence of the acarus, a man by the name of LeGale, a medical student at Paris, asserted its parasitic origin, and claimed to have seen the parasite. He went from hospital to hospital and exhibited it. The matter was of such importance that it was brought before the Academy. His claims were investigated and he was found to be an impostor. The "parasites" were ascertained to be common cheese-mites, a number of which he carried around with him, deceiving people by legerdemain, asserting that these were the living organisms he had removed from the epidermis of the patient. After that it was discovered by some one, I think, in Corsica, that the malady really was due to a parasite, the common people there recognizing its dependence upon something that could be removed from the skin. Applying the microscopic test to this something, he came to the above conclusion, and asserted that LeGale had had the right idea, but had not been able to find the parasite. In France, to the present day, the disease is known as "la gale."

NOTE.—After the application of the treatment mentioned, the patient recovered.

# Progress of Medical Science.

RUPTURE OF THE UTERUS TREATED BY DRAINAGE—RECOVERY.—On March 26th, A. C——, a woman at full term, was brought into C. von Hecker's wards, in Munich, in a state of extreme collapse, with the objective signs of rupture of the uterus. The lower extremities of the fœtus could be felt immediately behind the abdominal parietes in the right hypochondriac region. On the left side the firmly contracted body of the uterus was felt, and just above it a soft mass was perceptible, evidently the placenta. Per vaginam, the fetal head was found just above the inferior strait. It was stated that previous to the arrival of the patient in the hospital the pains had been uncommonly strong, and had been further stimulated by the administration of ergot. At the time of admission, however, the uterine contractions had ceased, as is usually the case when rupture has taken place. The forceps was immediately applied, and three tractions sufficed to deliver the head, the rest of the body following quickly. Vaginal examination now disclosed a large rupture in the cervix, penetrating through all the coats; it was extensive enough to have admitted the passage of the hand into the peritoneal cavity. The fingers were introduced through the rent, following the umbilical cord to the placenta, which was situated on the left side, as previously diagnosed, and was readily extracted. The condition of the patient was not materially altered by these manipulations, so that stimulation was not resorted to. Next morning the abdomen became very painful and tympanitic, and vomiting of green fluid, which had been present previous to delivery, recurred. Accidental circumstances prevented the introduction of a drainage-tube until thirteen hours after delivery. When once in place, however, it gave exit to a considerable quantity of sanguinolent fluid, which continued to drain away slowly for some time. There were frequent calls to empty the bladder, so that the catheter was finally resorted to and enormous quantities of urine evacuated. During the next few days iced compresses and opium were sufficient to overcome the peritoneal irritation. There were profuse and fetid fecal evacuations, which seemed to exercise a favorable influence on the condition of the patient, but which caused the extrusion of the drainage-tube on March 30th. On reintroduction of the latter more sanguinolent fluid escaped, but the quantity rapidly decreased. The temperature did not rise above 38° C., and in two weeks the rupture was firmly cicatrized. The above case shows that drainage is the cardinal point in the treatment of rupture of the uterus, as the danger in these cases consists in the retention of septic fluids in the peritoneal cavity. Of late several successful cases have been reported in which the line of treatment pursued was essentially the same. In some of them the abdominal cavity was also washed out with antiseptic lotions, usually two per cent. solutions of carbolic acid. Among the advantages of this method of treatment are its simplicity and easy applicability, which recommend it to the country practitioner in whose practice such cases are especially apt to occur, because of the long time which often necessarily elapses before the services of a physician can be secured. If possible, however, irrigations of the peritoneal cavity with carbolized solutions should be dispensed with, as they are by no means free from danger.—*Centralblatt für Gynäkologie*, May 14, 1881.

APOMORPHIN IN DISEASES OF CHILDREN.—Impressed by the favorable reports published by Kormann with respect to the expectorant properties of apomorphin, Kushel tried this drug in seventeen cases of bronchitis and catarrhal pneumonia, in patients ranging from one-half up to ten years of age. There were eleven cases of bronchitis complicating measles, with high temperatures (up to 41° C.= 105.8° F.); one case of variola, with intense bronchial catarrh; two cases of catarrhal pneumonia; and, finally, three cases of obstinate bronchial catarrh with very tenacious sputa. In the last-mentioned cases muriate of ammonia and ipecac had previously been administered without loosening the cough; in the remaining cases apomorphin was given from the first. In a short time, usually within the first twenty-four hours, previously dry râles gave place to moist ones, expectoration was facilitated, and when fever was present the temperature sank. All of the patients got well. The remedy caused no vomiting and no interference with digestion. The method of administration and dosage was that recommended by Kormann (*Jahrbuch für Kinderheilkunde, N. F.*, vol. xv., p. 180). For an infant one year old, the single dose should not exceed 0.001 ($\frac{1}{60}$ gr.) every two hours, *i.e.*, about ten times a day; for every additional year up to eleven years a half-milligramme is to be added to the individual dose; after eleven years one milligramme. Thus:

| | |
|---|---|
| ℞. Apomorphin. hydrochloric. crystall. | 0.02 |
| Acid. hydrochloric. dil..... | gtt. iij. |
| Syrup. sacchari s. senegæ s. ipecac.. | 20.0 |
| Aq. destill..... | 30.0 |

M. D. in vitro cœruleo. S.—A teaspoonful every one to two hours, for a child of three years.—*Med.-chirurg. Rundschau*, April, 1881.

RESECTION OF TUMORS OF THE BONES OF THE SKULL AND OF THE MENINGES.—Langenbeck showed ("Proceedings of Congress of German Surgeons") a woman sixty years of age, upon whom he had thrice previously operated for the removal of an epithelioma situated over the right frontal protuberance. The patient presented herself for a fourth time this February, with

a recurrence of the disease in the same situation, of the size of the palm. During the subsequent operation, it was found necessary to remove a large piece of the frontal bone, as well as the underlying dura mater, with the exception of a small piece of the latter in the centre of the wound, where the growth had invaded the pia mater. It was intended to destroy this part with chloride of zinc at a later period. The wound was dressed antiseptically, omitting, however, the use of the spray, and the course of healing was perfectly aseptic. The diseased patch in the centre was thrown off spontaneously with a small amount of underlying cerebral tissue. No cerebral symptoms manifested themselves at any time, except a slight protrusion of the right eye. Langenbeck stated that he had performed a similar operation once before, while Genzmer had done several. Langenbeck recommended Esmarch's bandage in such cases, first enveloping the head with a gauze bandage, and then applying the constricting band around the forehead and occiput.

Endolaryngeal versus Extralaryngeal Operations.—Rose claims that certain intralaryngeal growths cannot be thoroughly extirpated except after fission of the larynx. After the operation, the parts may resume a perfectly normal condition, as shown by an anatomical preparation removed from a patient who died of typhoid twelve years after the surgical interference. Rose had performed thyreotomy on her for the removal of several infrachordal fibromata. Böcker, of Berlin, claims, however, that the so-called radical operation, *i.e.*, laryngo-fission, is not by any means always radical, even when the growths are simple papillomata or fibromata. He has even succeeded, by the endolaryngeal method with preceding tracheotomy, in establishing a permanent cure in two patients, one of whom had been once, the other repeatedly operated on by thyreotomy by competent surgeons. Moreover, the radical operation was more liable, even when successful, to lead to deformity of the larynx, with great impairment of its functions. Thus, in the first of the two above-mentioned patients, a large mass of indurated connective tissue was found, uniting the lateral half of the thyroid cartilage, separating the vocal cords widely at their points of insertion anteriorly, while the dislocation of the parts was such that the left vocal cord was situated opposite the right false cord. Still Böcker acknowledged that fissure of the larynx was necessary in some cases, and he had performed the operation himself.—*Proceedings of Tenth Congress of German Surgeons*, April, 1881.

Total Extirpation of the Urinary Bladder and Prostate Gland.—Gluck and Zeller have experimented on dogs and human cadavers with the object of ascertaining whether this operation is feasible or not, and have come to the following conclusions:

*First.*—Total extirpation of the prostate can only be performed with facility on the cadaver after resection of the pubic symphysis.

*Second.*—Extirpation of the bladder and prostate can be performed on man without opening the peritoneal cavity.

*Third.*—The cut ends of the ureters can be approximated and sewed to the urethra by means of an instrument which Gluck has invented.

*Fourth.*—Stitching the ureters to the rectum, so that the former opens into the latter, always gave unfavorable results in dogs, while the animals recovered when the ureters were led to the surface through the abdominal incision. The animals also recovered after the establishment of an artificial ectopy of the bladder, by stitching together the opposed anterior walls of the bladder and abdomen, and cutting through the adherent tissues at a later period.—*Proceedings of Tenth Congress of German Surgeons*, April, 1881.

Feculent Pyopneumothorax.—Tillmanns, of Leipzig, has had a case of this description under his care, which terminated favorably. The patient was a copyist of fifteen years, who had been seized by the arms and violently shaken, and developed, some time afterward, symptoms of pyopneumothorax. The pleural cavity was opened under antiseptic precautions, and its contents found to be feculent. It was very difficult to maintain the antiseptic treatment. Nevertheless, after the lapse of five months, the patient was discharged cured. Tillmanns believes that at the time of the shaking a perforation of the right flexure of the colon or of the duodenum resulted, with the formation of a subphrenic fecal abscess, the contents of which found their way into the pleural cavity through some of the muscular interstices of the diaphragm. Similar cases have been previously reported, occurring partly as the result of penetrating wounds, partly after perforation of healthy intestine (duodenum, colon, vermiform appendix), and occasionally from rupture of gangrenous diaphragmatic hernia.—*Proceedings of the Tenth Congress of German Surgeons.*

Treatment of Gonorrhœa by the Internal Administration of Chlorate of Potash.—Zeitlin (*Med.-chirurg. Rundschau*, May, 1881) has treated fourteen cases of uncomplicated urethritis with chlorate of potash, given internally in daily amounts of three grammes, as recommended by Dochman. The results have been uniformly favorable. After a few doses, pain and erections ceased, the discharge became less free and thinner, and a cure was soon obtained without the intervention of any of the disagreeable and serious symptoms (hæmoglobinuria, collapse, etc.), which of late have so frequently been attributed to chlorate of potash. The action of the remedy is due to its rapid excretion by the kidneys in an unchanged form, and its local effect upon the urethral mucous membrane. It may be remembered that the drug has also been used in the form of urethral injections, and has been given internally in cystitis, whether of gonorrhœal or other origin, with good results.

Acute Suppurative Prostatitis.—Beck, Surgeon-General of the Fourteenth German Army Corps, has never met with an instance of this affection resulting from external traumatism. In his experience, such cases have been due either to the retrograde extension of gonorrhœa, to the employment of excessively strong urethral injections, or they have occurred as complications of acute, febrile diseases, like typhoid fever, pneumonia, etc. (excluding cases which develop in pyæmia and tuberculosis). The disease is characterized by high fever, interference with defecation, frequent micturition, occasional retention of urine (due not so much to stenosis of the prostatic urethra as to spasm of the external sphincter vesicæ, the fibres of which interlace and are continuous with those of the prostate), painful enlargement of the prostate, etc. If seen at the beginning of the attack, the inflammation may be aborted by the application of leeches and ice to the perineum, the exhibition of cathartics and enemata, absolute rest, and, finally, the careful use of large-sized metallic

catheters, at proper intervals, so as to thoroughly evacuate the bladder, thus relieving the engorgement of the prostatic plexus of veins. When suppuration has set in, similar treatment should be resorted to, except that ice should be replaced by warm fomentations. The catheter should be used as before, since, besides relieving spasm of the bladder, it facilitates the escape of the pus into the urethra if the abscess be situated in the vicinity of this canal. If, however, the collection of pus be deep-seated, near the rectum, the course of the disease is more prolonged. If the process assume a destructive character, it is proper to make an incision through the rectum, although Beck himself has not found it necessary to resort to the knife.—*Betz's Memorabilien*, May 12, 1881.

Is the Decidual Cell Characteristic of Pregnancy?—Wyder claimed that the uterine mucous membrane possessed distinctly peculiar cells in each of the three states of menstruation, membranous dysmenorrhœa, and pregnancy. While the cells of the menstrual decidua were small (0.001—0.008 mm.) and spheroidal, and their interior almost wholly taken up by the nucleus, those of the decidua vera were large (0.02—0.05 mm.), and contained an excess of protoplasm, although the nucleus was also large. These statements, if well grounded, would be of great importance in cases of suspected pregnancy. Ruge, however, has found that, although decidual cells of the above description are, in general, indicative of pregnancy, they are not characteristic of this condition, or rather that cells are found in other states which are identical with decidual cells as regards size, shape, amount of protoplasm, the size of the nucleus, and general arrangement. Such cells were observed in cases of endometritis, especially when chronic and combined with metritis, and also in cases of membranous dysmenorrhœa. The sole difference between the decidua vera of pregnancy and membranes expelled in membranous dysmenorrhœa consists in the smaller size and greater thinness of the latter.—*Centralblatt für Gynäkologie*, No. 12, 1881.

Membranous Enteritis.—Dr. Francis W. Goss describes (*Boston Medical and Surgical Journal*, June 2, 1881) four cases of this affection, which is characterized by the discharge from the bowels of what appear to be membranes or skins, of varying size, in the form of shreds, strips, or tubes. This peculiar discharge is accompanied with uneasiness and discomfort, if not with actual pain. The malady is of long duration, the patients, during the weeks or months while suffering from the discharge, being invalids, often confined to the bed or house. They seldom so far recover as to be in robust health, and, sooner or later, are subjected to recurrences of the trouble, with the accompanying physical weakness and suffering. The patients are usually persons who have not enjoyed good health, but have for years suffered from headache, dyspepsia, constipation, and general debility. They are easily fatigued. Care or over-anxiety often precedes, and seems to bring on an attack. Rarely is there a single one, but there are commonly recurrences at intervals of months or years. The period of suffering may extend over many weeks, and during this time there are frequent discharges of the membrane-like substance, even several times a day. The paroxysms are commonly preceded by a febrile condition, nervousness, uneasiness in the stomach, and sometimes by nausea and vomiting. Abdominal pain and tenderness are not usually very marked, nor limited to any particular region, and the discharge is followed in some cases by a sense of relief. In the intervals between the recurrences of the attacks, the patients are rarely restored to vigorous health. The diagnosis can readily be established by a consideration of the clinical symptoms with an examination of the discharge. Such an investigation will eliminate intestinal worms, fragments of hydatids, intestinal diphtheria, dysentery, or the discharge of a portion of the bowel. Da Costa urges the importance of inquiring, in cases of anomalous nervous symptoms, particularly when happening in hysterical persons where there is abdominal pain, into the possible existence of the malady under discussion. The prognosis is rather unpromising for a complete recovery. The treatment during the paroxysm, or when one is threatening, resolves itself into putting the patient in the condition most favorable to mitigate or endure the attending discomfort. Many and varied, according to all authorities, have been the medicines employed to prevent the recurrence of the malady, but their results for the most part have been disappointing.

Removal of the Kidney for Nephrolithiasis.—Mr. Barwell recently removed a kidney from a boy fifteen years of age, suffering from pyelitis and retroperitoneal abscess (*London Lancet*, June 4, 1881). About ten months before the operation an incision had been made, and palliation following, the wound was allowed to close. A sinus had, however, remained, and in April a stone was detected by sounding. The patient was growing very anæmic, and developed hectic fever. At length an operation being consented to, lumbar nephrectomy was performed. The removal of the calculus was unusually difficult. This was owing, in part, to the presence of dense cicatricial tissue, but also to the proximity of the rib to the ileum. In the attempted removal of the stone, copious bleeding occurred, and it was therefore deemed advisable to remove the kidney along with the calculus. Since lack of room forbade removing the kidney entire, it was divided and extracted in two parts. A pedicle had been previously secured by ligature. The operation was then completed very quickly, and with only very little hemorrhage. The progress of the case after the operation has been in all respects a favorable one, the temperature becoming normal and the wound healing rapidly. It is now almost completely closed. This is the second successful case of extirpation of the kidney for stone.

Syphilitic Alterations of the Teeth.—M. Parrot has devoted several lectures to the description of these alterations, described by some authors as being of convulsive origin, and by others as of a rachitic nature, whilst the author regards them as one of the products of hereditary syphilis. The following is a brief outline of the argument used by him to enforce his position: The typical alteration is found in the first molar, where it is constant if existing in other parts of the mouth. The altered part seems free in the middle of the teeth, and appears on a lower level than the sound part, from which it is separated by a sort of furrow. It is yellow, of an ochrey aspect; the cuspids are more pointed and filled with small elevations like grains of sand, and extremely friable. On the other hand, the part of the tooth upon which these altered parts rest is normal, often covered as if with a coat of enamel. The peculiarity of this alteration is the sort of retraction which the tooth has undergone at

the same time, and which has given rise to the separation between the healthy and affected parts.

The cup-shaped atrophy, next described, may present itself alone or associated with other varieties. It is more particularly observed upon the upper middle incisors. The tooth is generally large and high, and on the anterior and posterior face are observed small depressions of varying numbers—from one to eight. Their diameter does not exceed one millimetre, and they are in a horizontal row, united by small grooves or separated by a fold of enamel. At their level the tooth is not enamelled; it is of a dirty yellow, and the dentine is often exposed. This form of atrophy is very remarkable, and seems to be the elementary form of other varieties.

The third form is the sulciform atrophy. It is rarely found in the molars; it occurs chiefly in the incisors, and consists in horizontal furrows in numbers from one to three—rarely four—always horizontal and parallel near the maxillary border. A fourth variety is a hatchet-shaped atrophy. This is observed in the first dentition, only in the incisors, and almost always in the superior middle. This alteration is not primitive, being produced after the complete development of the tooth, whilst the other forms described commence when the tooth is still in its sac. The fifth variety is that to which Hutchinson has called attention, consisting of notches, occurring chiefly in the superior middle incisors, but being also found in others.

All of these varieties may be more or less considerably modified, but are almost always accompanied by certain consecutive alterations. First of all is the color, which may be modified, even in very careful persons, becoming yellowish or even greenish. In those exposed to different dusts, these attach themselves to the surface of the teeth, and give rise to various colors. There is also an abundant deposit of tartar. By far the most important consequent alteration is caries. The molars are lost early, the jaw is atrophied, and spaces, as normally seen in horses, are soon established.

There are, however, changes in the teeth which must not be confounded with those described. Thus, at the second dentition, the incisors often present at their free edges saw-like notches; then it may occur that from friction the incisors may cut a bevel-edge on each other. The hatchet-shape may be determined by caries. And, again, there exist normally in some subjects true furrows. It is therefore necessary to be careful in making a diagnosis.—*St. Louis Medical and Surgical Journal*, July, 1881.

Cerebral Embolism. — Dr. Dickinson reports (*British Medical Journal*, May 21, 1881) two cases of cerebral embolism which were marked by their rapid course and the accompanying febrile symptoms. The two cases were similar in almost every particular. The subjects of both were girls; the leading symptoms in both were high fever and delirium, without any, or with scarcely any, definite paralysis, or the aphasia so common with cerebral embolism. The temperature in one case was always between 102° and 103° F.; in the others, generally between 103° and 105° F. In both there was decided evidence of pulmonary congestion with the progress of the disease, and rapid death by coma; with both there was a resemblance to meningitis, in the headache, the vomiting, and the mental disturbance; while in neither was there the constipation which is general, at least with the tubercular form of this inflammation. In both the resemblance to a specific fever, especially to typhoid, was superficially evident; but the fever was too high, and the cerebral embarrassment too great for so early a date in the course of that disease. The resemblance to an acute specific fever was very striking, and might have been misleading had the cases been observed hastily or in disregard of the concomitant circumstances. The pathological condition was, in a word, the distribution through the brain of embolic dust, which was so fine as to traverse, without hinderance, the larger arteries of the base and substance, to be finally arrested in the minute channels of the pia mater.

Nitrous Acid as a Disinfectant.—Dr. J. Lane Norris (*Dublin Journal of Medical Sciences*, June, 1881), in advocating aërial disinfectants, states that, as ordinarily practised in the sick-room, they are positively useless. To place carbolic acid, or permanganate of potassium in solution, in small quantities in a saucer in the corner of a room is utterly worthless, so far as any effect is concerned which is thereby produced on specific contagia, the quantity diffused being wholly inadequate to the object in view. Aërial disinfection, when resorted to, must be carried out in its minutest details, just as carefully as when we are dealing with liquid disinfectants, and the proportion of the agent used, and the size of the room it is proposed to submit to its action, carefully balanced, so as to ensure destruction of the poison. Of all the agents recommended, he found nitrous acid by far the most effective. The following experiment was repeated several times, and gave the same result each time: Two ounces of well-cleaned copper wire were treated with fifty cubic centimetres of concentrated nitric acid in a chamber with a cubic capacity of fifty-three feet, yielding, however, only 0.35 per cent. of nitrous acid. A saucer containing one hundred cubic centimetres of decomposing infusion of beef, full of active bacteria, was placed in the chamber with the nitric acid and copper-wire mixture, and the effect was most decided, reducing the activity of the bacteria, while the fluid was rendered strongly acid. The same preparation, after forty-eight hours, examined microscopically, showed still a diminished activity. The bacteria were largely precipitated, and the fluid was free from all putrefactive odor. The fluid in another test-saucer, on the other hand, was opaque and clouded with active bacteria, the putrefactive odor being very offensive. Examination on the third day showed still no tendency to the further development of bacteria, and the fluid remained quite inodorous. The test-saucer having been introduced into the chamber, with a further addition of thirty-five cubic centimetres of strong nitric acid, gave evidence of considerable improvement after the lapse of forty-eight hours, and, no doubt, would have been quite corrected by a further exposure to the nitrous acid fumes. Both these infusions, examined after the lapse of a week, showed changes for the worse.

These experiments, Dr. Norris is inclined to think, clearly prove that in nitrous acid we have a chemical agent which will arrest the development and further reproduction of septic microzymes, and which is therefore capable of destroying contagion.

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The American Dermatological Association held its fifth annual session at Newport, August 30th, 31st, and September 1st. The meeting was opened by an address from the President, Dr. J. Nevins Hyde, of Chicago, "On the Relations of Dermatology to the Periodical Medical Press."

# THE MEDICAL RECORD:

## A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., Editor.

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## THE RELATIVE POWERS OF THE DIFFERENT DISINFECTANTS.

THE difficulties in the way of accurately gauging the value of different disinfectants are much greater than would be supposed. It is not until within a few years that any satisfactory data upon this point have been obtained, and even now the question is far from being definitely settled. Over ten years ago Dr. John Dougall made some experiments upon the relative power of different reagents, to destroy infusoria and spermatozoa. Such substances as chloride of arsenic, corrosive sublimate, oxalic acid, and the mineral acids were found to be the most active in this direction. But the experiments were incomplete, and of little practical value. A short time after this, Dr. Calvert made some investigations, in order to determine what substances would longest prevent the development of infusoria, vibrios, and putrefactive odors in solutions of egg-albumen. He showed that carbolic and cresylic acids, chloride of zinc, corrosive sublimate, quinine, turpentine, and prussic acid were most efficient in doing this. But subsequent experiments have in a measure contradicted his results. Some years ago, Prof. Zürn and Dr. H. Endemann, of this city, made experiments with acetate of alumina, phenol, and salicylic acid. Their method was to add to a drop of putrid fluid containing bacteria, micrococci, spirilla, etc., a drop of water containing one of the above reagents in different proportions. The mixture was then examined under the microscope. Zürn's conclusions were that phenol dissolved in the proportion of one to two thousand, killed the organisms at once or in a few minutes. The organisms were considered killed, however, simply because they were made motionless. It was subsequently shown by Endemann that they were not really dead, and this experimenter made further and more elaborate investigations to test the power of various anti-zymotics. The results obtained by his method showed that cresylic acid will perfectly destroy bacteria, spirilla, etc., if it is contained in the fluid in the proportion of 1 part to 516. Carbolic acid will do the same if in the proportion of 1 to 278; salicylic acid in the proportion of 1 to 200, and hydrochloric acid if in the proportion of 1 to 64.

L. Buchholtz, of Dorpat, who has made similar experiments to those of Endemann, came to the conclusion that a larger proportion of carbolic acid (1 to 25, or 1 to 100), was necessary for perfect disinfection.

The above experiments were all made on the supposition that a destruction of the living organisms in a fluid destroys also its power to cause disease. Such a supposition is quite a legitimate one. For it seems very probable that even if bacteria and micrococci are not the special and direct causes of any disease, their existence is, in many cases, necessary to the development of the special poison.

The experiments which we have thus referred to have been supplemented by many others. But the subject has been by no means exhausted. We refer, therefore, with pleasure to some quite recent investigations by Dr. G. M. Sternberg, published in the *Bulletin of the National Board of Health*, which throw additional light upon the matter.

Dr. Sternberg's experiments differ from most previous ones in that he has used, as a test, vaccine virus and human saliva. As regards the former, the test of disinfection was, insertion of the disinfected virus into the arm of an unvaccinated child, virus from the same source not disinfected being inserted at the same time at a different point. A positive result from the non-disinfected virus and a negative result from that exposed to the disinfecting agent was taken as proof of the potency of this agent. The human saliva used was from the experimenter himself. He had found that this secretion, when injected into rabbits, produced a form of septicæmia, which was fatal in twenty-four hours. If such saliva, after treatment with a disinfectant, failed to produce any disturbance when injected, it was assumed that the virus of the disease was destroyed and that the disinfectant was a potent one.

In experiments with the vaccine virus, the conclusions were that chlorine, nitrous acid gas, and sulphurous acid gas were reliable disinfectants in the proportion of one volume to one hundred of air. That is to say, films of moist vaccine virus lose their power when exposed to air mixed with the above gases in the proportion given. It was shown also that sixty-eight pounds of pure carbolic acid, placed on the floor of a room twelve feet square and twelve feet high, would not kill bacteria in the room. This last experiment demonstrates what has indeed already long been known, that the sprinkling of carbolic acid about a room does not at all disinfect the air, but only the parts which the acid touches.

The experiments with the septic virus of human

saliva were made in order to test the power of non-gaseous disinfectants. The record of the various tests is somewhat long, but the results can be briefly summarized. The substances found to be disinfectant, are divided into three groups according to the amount of dilution necessary to destroy their efficiency.

The first group includes those efficient in the proportion of 0.5 per cent. Among these are iodine, thymol, and sodium hyposulphite. In the second group are those efficient in proportions below two per cent. Here we find carbolic and salicylic acid, chloride of zinc, permanganate of potash, and other substances. In the last group are those which failed to disinfect in a proportion of two per cent. These include eucalyptus globulus, salt, alcohol, camphor water, etc.

The experiments thus recorded, furnish an interesting addition to our knowledge of the powers possessed by different disinfectants. The last series, indeed, would hardly be of much value standing alone. But the first series is especially interesting as showing that disinfectants which kill bacteria will also destroy the particulate virus, whatever it may be, of those infectious diseases in which micrococci and their cousins are not found.

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### THE ANNUAL MEETING OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

THE thirtieth annual meeting of this association was held at Cincinnati, and concluded its work the week before last. As it is a fair exponent of the general character of American science, its sessions always present something which deserves recording.

The recent meeting did not come up to the level of that of last year at Boston. The attendance was much smaller, and there was a notable absence of the older and better known men. Neither were there any striking addresses. It was noticeable that the younger men held the field, and did most of the work which, though in part light to the point of being trashy, yet, as a whole, showed industrious pursuit of knowledge and a love of it for its own sake. It is a hopeful sign for the future of science in this country, that the utilitarian spirit of the time has not yet put its mark entirely upon the younger scientific men.

The work in the biological and chemical sections, which would especially bear upon medical science, was tolerably good. Still we find few papers that were not rather too technical for general interest. A paper was read upon the "Life Unit of Plants," which consisted largely of re-statements. H. C. Hovey read an able essay entitled "Revision of the Anatomy of the Ethmoid Bone in Mammalia," which would be of interest chiefly to medical students, for they alone, we fear, of the medical profession are familiar with that complicated anatomical landmark. A paper of interest to comparative anatomists was one entitled "The Mesal Cusp in a Cat's Canine." Professor W. H. Brewer read a paper on "Color Markings in Domestic Animals," which showed some original observations. He had found that white feet, white spots, and other white markings occurred much more frequently on the left than on the right side in domestic animals. So far as he had studied, this law applied to the wild animals also. His inference was that the nutritive centres which regulate the deposit of pigment on the left side are weaker. In the Chemical Section, H. B. Parsons advocated the use of dry American wines, as preferable to the uncertainties of foreign importation.

There has been much claimed for synthetic chemistry in the construction of chemical substances; a paper upon the "Limited Biological Importance of Synthetic Achievements in Chemistry" has some interest, therefore. Prof. W. O. Atwater, in an essay on the "Source of Nitrogen in Plants," showed that they take it up to some extent from the air, and in this way obtain part of that material for growth. Mr. D. W. Prentiss claimed that the internal and external use of pilocarpin darkened the color of the hair, and even, in some cases, that of the eye.

The association did a useful thing in making a formal protest against the practice among American colleges of granting the degree of "Ph.D." *honoris causa*. Such a degree should indicate some attainments on the part of its possessor, but we can hardly say now that it does. The trouble is, however, not only that it is given "for honor," but also for a very insufficient amount of actual study and work. It is, we fear, beyond the power of the American Association to secure reform here.

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### THE PRESIDENT.

AT date of writing the President has just been removed to Long Branch. The absolute necessity of getting him away from the intense heat and malarious influences of Washington had become apparent, and this necessity will justify the courage and boldness of the physicians in advising and carrying out the move, whatever the ultimate result. As yet it seems to have done no harm, but it will be several days before definite knowledge regarding the effect of the change can be gained. The climate of Long Branch is not of the most favorable kind, in the experience of New York physicians. It is very changeable, and is of course quite damp. Still, it is an improvement upon that of Washington.

In looking over the bulletins of the past week it is not easy to get much encouragement. The pulse is distinctly faster than a week ago, the temperature a degree higher, and respiration somewhat more rapid. The bulletins reported for five days "no material change;" for two days "some improvement." From these it would be inferred that the patient was on

the whole a little better; but the record of the pulse and thermometer do not confirm this inference. The heart has now been beating at the rate of about one hundred times per minute for nearly ten weeks. While no faster now than it has been at other times, there seems to be an increasing tendency to fluctuation, showing an irritable and weakened condition. The septic poisoning undoubtedly still exists.

The following table gives the range of the pulse during the successive weeks, and will show how steadily it has kept above the normal:

| | | | |
|---|---|---|---|
| 1st week | 100 to 120 | 6th week | 104 to 110 |
| 2d " | 98 " 108 | 7th " | 106 " 130 |
| 3d " | 96 " 130 | 8th " | 106 " 125 |
| 4th " | 76 " 118 | 9th " | 100 " 109 |
| 5th " | 96 " 104 | 10th " | 102 " 114 |

Little has been said in the bulletins about the condition of the wound, but it is to be inferred that there is no marked change in it. The bullet continues to cause disturbance, and is not yet encysted. The suppuration of the parotid gland has been improving, which is a most favorable sign. The stomach has also continued to hold out well, vomiting having occurred only twice during the week.

There is some just complaint regarding the meagre character of the bulletins. They furnish scarcely anything upon which medical men can base an intelligent opinion. We have no facts regarding the skin, tongue, excreta, facies, bodily weight, character of the pulse, nor even whether the temperature given is that of mouth, axilla, or rectum. It would be quite possible for the attending physicians to be more explicit and satisfactory in their official announcements.

### THE CASE OF JENNIE CRAMER.

The case of Jennie Cramer, an unfortunate girl, who was seduced, and, it is thought, murdered, near New Haven, Conn., has excited a great deal of comment and attention. The suspicious circumstances surrounding her death led to a prolonged examination of witnesses, and to securing a chemical analysis of her body. From the latter it was found that it contained about two grains of arsenic, distributed throughout the different tissues. The coroner's jury, therefore, brought in a verdict of death by violence, and an indictment has been drawn up against the supposed murderer.

The case will in time be brought to trial; meanwhile, the performances of the coroner's jury are what we wish to criticise. No case has ever brought out more clearly than did this one the folly of having non-experts on a coroner's jury. The entire conduct of the case was marked by delays and exhibitions of stupidity and ignorance, which brought down the censures of every one. The need of medical coroners, or of some such system as that adopted in Massachusetts, has been strikingly shown, and the people ought to profit by the experience.

## Reviews and Notices of Books.

Anatomical Studies upon Brains of Criminals: A Contribution to Anthropology, Medicine, Jurisprudence and Psychology. By Moriz Benedikt, Professor at Vienna. Translated from the German by E. P. Fowler, M.D. New York: Wm. Wood & Co. 1881.

Criminals are defined by the author as persons in whom there is an inability to restrain themselves from the repetition of a crime, notwithstanding a full appreciation of the superior power of the law (society), and a lack of the sentiment of wrong, though with a clear perception of it.

The author has endeavored to show that the brains of this class exhibit a deviation from the normal type, and that criminals are to be viewed as an anthropological variety of their species, at least among the cultured races. The deviation which Benedikt believes to exist, is that of a deficiency in the annectants of the different convolutions. In other words, these various convolutions are not so closely connected together; there are fewer associating fibres and more sulci. The cerebellum, in addition, is not, on the whole, so well covered as in normal brains, and the general course of the convolutions shows the brain to resemble more closely a lower animal type.

The number of cases on which these deductions are based, is twenty-two, the criminals being of various nationalities, but chiefly Sclavonic.

If such a conclusion as that which the author draws were sustained, it would be plainly one of the greatest importance. We cannot consider, however, that it is at all proven. The brains examined are too few, and the various factors of race and general physical development have to be considered. Besides, the investigations of Broca contradict in many particulars those of Benedikt, who, himself, has not the best reputation for mental equipoise. Furthermore, if we mistake not, the same atypy found here in criminals has been observed in the non-criminal.

Much more work must be done before conclusions upon this matter can be reached. And for our part we are very skeptical of the discovery of any anatomical basis of criminality. Certainly there would be no *à priori* reason to believe in Benedikt's theory, for some of the best developed minds (and, presumably, brains) show, not infrequently, a lack of the moral sense.

It is but justice to the author to say that he appreciates the incompleteness of his study and offers the work, in large part, as an incentive to further investigation in the same direction. The illustrations are numerous, but are not very good.

The translation is well and conscientiously done, though the translator has plainly given himself over to the theory propounded in the book.

American Nervousness: Its Causes and Consequences. By George M. Beard, A.M., M.D. New York: G. P. Putnam's Sons. 1881.

The medical reader will find in this work very much that which has already been published in various forms by the author. His views upon the subject treated are here, however, collected and systematized. The author believes that the peculiar life of the American people has resulted in the production of a widespread nervous exhaustion. This shows itself

in the great prevalence of the nervous diathesis, of neurasthenia, inebriety, insanity, and epilepsy.

We have not space to analyze the work, and it is, indeed, scarcely necessary. It strikes us, in the first place, that the author is fundamentally wrong in defining nervousness as a lack of nerve-force. Few will believe that all of the many nervous men and women met with daily in this country have any such deficiency. In many cases the typically nervous are so because their nervous system is developed to excess. There is too much nerve and too little muscle, bone, and fat. The body lacks equipoise of forces rather than nerve-force.

But, whatever the pathology, the fact that a widespread nervousness, peculiar in many of its features, exists in this country cannot be gainsaid. The present work is a most admirable exposition of the subject, showing, as it does, original thought and research, as well as much shrewd observation.

Dr. Beard is an author whose works, as a rule, contain a mixture of the very good and the very bad. For this reason, he is often condemned and praised unjustly. His most glaring fault — that of looking at things in general, including himself, in a most exaggerated light—is much less conspicuous in the present volume than usual. There are the evidences here of a broad and logical mind, as well as of extensive research and observation. We would not class the author, as he himself sometimes seems inclined to do, with Copernicus, Newton, and Darwin, because he discovered and organized American nervousness; but it would be injustice not to ascribe real originality to him, and equally unjust not to bestow high praise on the philosophical manner in which the present subject is treated. And one may look in vain through modern medical literature for better specimens of what may be called "fine writing."

PROCEEDINGS OF THE LOUISIANA STATE MEDICAL ASSOCIATION. New Orleans: I. S. Rivers. 1880.

ONE hundred and eleven pages are filled by the usual matter composing State Society reports. The president's annual address is a very satisfactory production, and there are also a number of very readable papers on various medical topics, so that this report, although small, is by no means an insignificant contribution to the general literature of medical society proceedings.

TRANSACTIONS OF THE STATE MEDICAL SOCIETY OF WISCONSIN. Milwaukee. 1880.

THIS volume is not the receptacle of abundant papers with profuse records of cases, but it contains a few good reports on practical matters relating to medicine. There are only eleven papers, all told, and yet the volume compares favorably with other transactions of a similar kind. The general outfit is also above the average of "State Society Proceedings" books. Excellent paper and an equally good typography render the general appearance of the Wisconsin volume very attractive.

THIRD ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF THE STATE OF CONNECTICUT, for the fiscal year ending November 30, 1880. Printed by order of the Legislature. Hartford, Conn. 1881.

THIS is a volume of more than usual interest, containing a great abundance of useful information, both local and general. There are papers of special significance on typhoid fever and sewerage. A report on the transmission of tuberculosis from the meat and milk of infected animals, by Dr. Cressy, forms a timely contribution to that department of pathology. Another paper on color-blindness, by Dr. W. T. Bacon, is also of great interest, although it is rather incomplete in some of its details.

THE STUDENT'S MANUAL OF HISTOLOGY, FOR THE USE OF STUDENTS, PRACTITIONERS, AND MICROSCOPISTS. By CHARLES H. STOWELL, M.D., Assistant Professor of Physiology and Histology, etc., University of Michigan. Detroit: George S. Davis. 1881.

THIS manual is intended for students merely, and is in all respects the most unsatisfactory production of the kind which it has yet been our fortune to behold. Those drawings which are not copied are wretched, and will confuse rather than instruct the student. The reproduced cuts are also for the most part worse than poor. As regards the text, it is inadequate to give beginners even a fundamental knowledge of the facts of histology. Some parts are unduly expanded, others so pathologically contracted that brevity ceases to be a merit. Still others have no existence at all. To mention only one such item, not a word is said in the whole book about the mammary gland, an organ which has excited, and continues to excite, the interest and attentive consideration of both histologists and pathologists.

The inevitable school-boy chapter on tumors, apart from being utterly out of place in a book purporting to treat of histology, is intrinsically so wretchedly poor, that no work on pathology would care to be disgraced by embodying such an account of neoplasms in its pages.

A TREATISE ON BRIGHT'S DISEASE AND DIABETES, WITH ESPECIAL REFERENCE TO PATHOLOGY AND THERAPEUTICS. By JAMES TYSON, A.M., M.D., Professor of General Pathology and Morbid Anatomy in the University of Pennsylvania. Including a Section on Retinitis in Bright's Disease, by WILLIAM F. NORRIS, A.M., M.D. 8vo, pp. 312. Philadelphia: Lindsay & Blakiston. 1881.

THE author of "The Cell Doctrine" and a "Guide to the Examination of Urine" has written a new book, which is not a new book. In other words, the pages of this volume will be searched in vain for the evidences of original research or special investigation. Still, as Dr. Tyson tells us in his preface that "for more than fifteen years his thoughts and studies have been in the direction suggested by these subjects," we may suppose him to be well qualified to furnish us a satisfactory résumé of our present knowledge concerning them. And in this we are not mistaken.

The physician who desires to know what modern renal pathology signifies, and what a system of rational therapeutics based thereon means, may be cheerfully recommended to procure the present book. Dr. Tyson has wisely abstained from entering into the details of pending controversies in regard to certain vexed points connected with Bright's disease and diabetes.

He gives us in compact form what are to be considered facts of renal pathology and therapeutics. As regards treatment, however, we can hardly say that the author has been merely a compiler of other's views. In fact his personal experience in this direction appears to have been somewhat exceptional. In diabetes, for example, the first agent mentioned under the head of medicinal treatment is ergot. This drug he gives first, not because it is invariably useful, but because he has "been able to trace to it results more directly than to any other

remedy." The majority of those who have tried ergot have failed to become impressed with its utility in saccharine diabetes. Dr. Norris's chapter, while it presents nothing which the profession does not already know, will be found to contain a concise and carefully prepared recapitulation on the subject of retinitis in Bright's disease. The mechanical execution of the volume is creditable to the publishers, but the colored plate illustrating waxy casts is a poor production, and should have been entirely omitted.

SUPPLEMENT TO ZIEMSSEN'S CYCLOPÆDIA OF THE PRACTICE OF MEDICINE. Edited by GEORGE L. PEABODY, M.D., Instructor in Pathology and Practice of Medicine, College of Physicians and Surgeons, New York; Pathologist and Medical Registrar to the New York Hospital. Pp. 844. New York: Wm. Wood & Co. 1881.

IT was a keen sense of the value of so comprehensive and thorough a work as "Ziemssen's Cyclopædia" which prompted the issue of the present supplementary volume. According to the editor, its immediate object was to remove from that great storehouse of medical knowledge, the Cyclopædia, "the few traces of time that the last few years have produced." But the book really does more than this. It truly supplements the volumes of the Cyclopædia by recording, in brief form, the advances of medicine with special reference to the subjects treated of in the main work. In addition, however, and quite independently of the original work, it gives a résumé of the general progress achieved in our profession during the past five or six years, and it supplies a copious and in most instances carefully selected bibliography of modern medicine. The circumstance that all the contributors to this volume are American physicians, and not a few of them eminent writers in their special departments, will go far toward making the book doubly welcome to the American reader. In fact we need not hesitate to say that it forms an almost indispensable companion to the previous volumes of the Cyclopædia, and thus becomes a supplement in the best sense of the word.

The amount of labor requisite to edit such a volume in a manner which even approximates to uniformity in the treatment of the different subjects, must have been very great. Accordingly, we are not warranted in feeling surprised at the absence of Dr. Peabody's name from the list of contributors. The twenty-eight gentlemen who have furnished articles, are more or less representative physicians, living in various parts of the country. It would appear that the space assigned to some subjects has been rather too limited, while other chapters are characterized by some unnecessary expansiveness. But perhaps such defects are not altogether avoidable in a work of this kind.

Not the least valuable feature of this supplement is, as already intimated, the copious bibliography with which most articles are provided. Indeed, some of the contributions seem almost like an *index medicus*, mitigated by an occasional explanatory remark or suggestion from the contributor. On the other hand, some chapters excel in a conspicuous absence of complete bibliographical indices. And notably one very able contribution, which bears the stamp of some pleasing originality, is totally divorced from all bibliography. We refer to the article on syphilis by Dr. Hyde, of Chicago. The bibliography was omitted, the editor informs us, for lack of space. We had rather missed the text of the unsatisfactory, because much too brief, contributions relating to myalgia rheumatica, corpulence, idiopathic adenitis, diabetes insipidus, erysipelas, and the diseases of the spinal cord, than the bibliography of the chapter on syphilis.

Diphtheria is discussed twice. The first time in a special chapter together with croup, and again under diseases of the pharynx. Of course such a double representation is not necessary, even when the disease has the great practical importance which diphtheria undoubtedly possesses.

We have pointed out what we considered defects in the preparation of the volume before us, because we would like to see them remedied in future editions. In conclusion, we can only repeat what we expressed at the outset of this brief notice, viz.: in our opinion the book *per se* forms a desirable acquisition to the physician's library, and an almost indispensable supplement to the possessor of "Ziemssen's Cyclopædia."

ANATOMICAL PLATES ARRANGED AS A COMPANION VOLUME FOR "THE ESSENTIALS OF ANATOMY," AND FOR ALL WORKS UPON DESCRIPTIVE ANATOMY, COMPRISING FOUR HUNDRED AND THIRTY-NINE DESIGNS ON STEEL, ETC. Edited, with Revisions, from the Original Translation of Prof. Pattison, by AMBROSE L. RANNEY, A.M., M.D., Adjunct Professor of Anatomy in the Medical Department of the University of the City of New York, etc. New York: G. P. Putnam's Sons. 1881.

THE present atlas is an almost complete reproduction of Dr. Pattison's translation of Masse's work. Both editor and publisher appear to have become aware of this fact rather "late in the season," for on the title-page Dr. Ranney's name still shines resplendent in conspicuous type, although our copy shows a lead-pencil addition, setting forth that he has edited the work "with revisions" from the original translation of Pattison. Masse's name is not even alluded to, except in an accompanying note from the publishers, which ascribes these trifling omissions to "a clerical error." We were not previously aware of the full meaning and wide scope of this expression, but in our present enlightened condition we are prepared to state that the terms are but a convenient synonym for almost unmitigated plagiarism. We say almost unmitigated, because Dr. Ranney's insignificant changes and additions, some of them even very poor ones at that, will fail to convince the reader that the present self-styled editor deserves to have his name paraded on the title-page at all. Judged merely by itself, Masse's Atlas is not above the average of works of its kind. The plates are not superior productions of skilled art, nor, on the other hand, have they the diagrammatic clearness and simplicity of less pretentious designs. However, the atlas is cheap, and that is about its sole recommendation.

DYSPEPSIA: HOW TO AVOID IT. By JOSEPH F. EDWARDS, M.D. Author of "How a Person Threatened or Afflicted with Bright's Disease Ought to Live," "Constipation Plainly Treated," etc. Presley Blakiston, Philadelphia.

A PLEASANTLY written treatise, containing much information for the careful and timid eater. The author inveighs against overfeeding, and lays down the axiom that the flesh eating people out-fight and out-work the vegetarians. Moderation and regularity are, of course, enjoined. Many useful hints make the work thoroughly practical, and its freedom

from technicalities cannot fail to render it popular. A recommended perusal on the part of the physician to his dyspeptic patient will save much time and many words.

A New Form of Nervous Disease: together with an Essay on Erythroxylon Coca. By W. S. Searle, A.M., M.D. 8vo, pp. 138. New York: Fords, Howard & Hulbert. 1881.

The number of new forms of nervous diseases is increasing with most interesting rapidity, and the list is already a long one. Myxœdema has for some time been established as a distinct pathological entity. Neurasthenia has been making the loudest possible claims upon medical attention. Gout, we are now informed, has a neurotic origin; the same is sometimes true of diabetes. Fatty heart, according to Kennedy, is often due originally to pathological changes in the trophic centres. There is much evidence that leprosy is a nervous disease. La Salpêtrière has furnished some very novel nervous phenomena.

But there have been few observers who have come out with so bold a claim for a new form of nervous disease as has been done by a homœopathic practitioner of this city. Our Hahnemannian brethren are just beginning, so it seems, to study medicine seriously. Their efforts are characterized, as a rule, by a pleasing enthusiasm and freshness of style, which in part compensates for the load of mental equipoise and the rather narrow range of knowledge displayed. The reader feels sure that by and by they will know more and do better. Thus we have in the little work of Dr. Searle's, a very interesting and earnestly written book. The observations it contains are well made, and the work is a contribution to medicine of real value. There are, however, two objections to it which are fundamental. The author attempts to construct a new disease out of some twenty or thirty cases, and he announces as new, and never before published, what has been as well, or better, described by Weir Mitchell some six years ago.

This "new form of nervous disease," announced by Dr. Searle, is characterized by two phenomena: a sensation of sudden shock or blow, or explosion in the head, usually accompanied with vertigo, and a condition of passive congestion, usually of the cerebellum only.

The symptoms as occurring in one of his patients, a man, aged forty-seven, were as follows: About daylight the patient was suddenly aroused from profound sleep by a sudden shock in the occiput, accompanied and followed by vertigo, which was very severe. He sprang up and fell over upon the bed, not losing consciousness however. The experience repeated itself five or six times before rising. During the day a sense of dulness, weight, and confusion oppressed the head, especially in the occipital region.

In this and in other cases the shock was found to occur at varying periods. In the intervals, the symptoms of cerebral congestion were often prominent. In one case only, consciousness was lost. The patient never had epilepsy, nor was there any history of that disease in the family.

Such are the principal symptoms as given by the author. Essentially the same phenomena are described by Mitchell in a little work on nervous diseases recently published. Dr. Mitchell first described them in 1875 in the *Virginia Medical Monthly*.

In his book the symptoms are classed under the head of "disorders of sleep." Mitchell finds them occurring quite often in hysterical women, and appearing generally at the time of dropping off to sleep, being a kind of nocturnal "fish-flap." They are undoubtedly akin to the sudden starts which many healthy individuals experience when dozing, and which sometimes arouse the person as completely as if struck by a blow. The difference, at least, must be one of degree rather than of kind.

The same symptoms have been observed by many others, and the matter was discussed briefly at the meeting of the American Neurological Association two years ago. Dr. Searle has got hold of some of the most highly developed cases. A wider clinical experience, and a more extensive knowledge of the literature of the subject, would probably lead him to modify his views.

Lectures on Diseases of the Nervous System, Especially in Women. By S. Weir Mitchell, M.D. With Five Plates. 8vo, pp. 238. Philadelphia: Henry C. Lea's Son & Co. 1881.

Dr. Mitchell's contributions to medical literature never fail to contain new observations, or to show the work of a broad and original thinker. The present small volume, though unpretentious, is entirely worthy of its author, and is one of the most entertaining and readable treatises we have met with for a long time.

The class of diseases which is discussed, is that which has hysteria and neurasthenia for its basis. In thirteen lectures the author describes the various subdivisions to which the many symptoms developing upon such soil may be assigned. It is impossible, in the space we have, to give any adequate analysis of these chapters, but we may briefly refer to those phases of the hysteric or neurasthenic diathesis of which Dr. Mitchell may be considered the first discoverer, or at least the first describer. Under the head of hysterical paralysis he describes a form of hysterical motor ataxy different from that mentioned by Briquet and Leségue, and first noted by the author himself. In a chapter on spasmodic affections in women, he relates the histories of several cases of hysterical athetosis. There are also two chapters on chorea, which give the result of extended researches into the meteorological relations of that disease. The results obtained are not very definite, but seem to show that chorea has, like neuralgia, some relation to storm-centres. Under the head of disorders of sleep, he describes the symptoms of shocks or explosions in the head, with accompanying nervous disturbances, all of which have recently been announced by a physician in this city to constitute "a new form of nervous disease."

In two chapters on mimicry in disease, the author gives us some rather old stories; and his views on this particular subject would be much broadened by a knowledge of the phenomena of hypnotism, recently studied with so much activity.

We turn with especial interest to the concluding chapter, in which the author discusses again his well-known "fat and blood" treatment of neurasthenia and hysteria. Dr. Mitchell still claims for it the very best results, and feels even greater confidence in its usefulness. We note, however, at the end that the author carefully guards himself. He would, he says, resort to this treatment only after exercise, out-door life, tonics, or change have been carefully tested. Again, as to the permanence of his cures, which has of late been much questioned, he makes the somewhat vague statement that they

"are quite as lasting as the cures of any nutritive defects obtained in more ordinary ways."

The work does not treat of the hystero-epilepsies, hysterical contractures, etc., described so fully by Charcot and others. Dr. Mitchell expresses the generally accepted opinion of neurologists when he says that these diseases are very rare indeed in America. The subject of the modification of functional nervous diseases in different races, and in different modes of life, is thus touched upon, but is not discussed.

The work, as a whole, treats of its special subject in an admirable and philosophical manner. It has only to be remembered that, after all, these curious phases of disease are not met with often, and to most practitioners they cannot have a great practical interest.

We cannot forbear, in conclusion, to commend one thing, and that is the absence of drugs and specifics in treatment. Tonics are almost the only medicines referred to, and a system of "building up" is at the basis of all the therapeutics.

THE DISEASES OF CHILDREN: A PRACTICAL AND SYSTEMATIC WORK FOR PRACTITIONERS AND STUDENTS. By WILLIAM HENRY DAY, M.D. Second Edition. Rewritten and Much Enlarged. 8vo, pp. 744. Philadelphia: Presley Blakiston. 1881.

THIS work, which has already been before the profession, does not need an extended notice now. It is, as it claims to be, practical and systematic. There is but little pathology in it, and the author's views on mooted pathological points, such as the difference between croup and diphtheria, etc., are not worth much. The work is essentially a clinical one, and as such it is to be judged. The descriptions are clear, brief, and well arranged. The therapeutical part is full, but is not up to the best standard—at least so we think it will appear to the American reader. Its comparatively small size and practical character will no doubt find for it a large circle of readers.

ABERNETHY ON TABLE-HYGIENE.—There are still, we believe, some apostles of rapid eating among the doctors in this country. We commend to their attention the following interview (from "Sam Slick"), which is worth a hundred lectures: "The Honorable Alden Gobble was dyspeptic, so he goes to Abernethy for advice. 'What's the matter with you?' says the doctor. 'Why,' says Alden, 'I presume I have the dyspepsy.' 'Ah!' says he, 'I see —a Yankee, swallowed more dollars than you can digest.' 'I am an American citizen,' says Alden, with great dignity; 'I am secretary to our Legation at the Court of St. James.' 'The devil you are!' says Abernethy; 'then you'll soon get rid of your dyspepsy.' 'I don't see that inference,' said Alden. 'But I tell you it does follow,' says the doctor, 'for in the company you'll have to keep you'll have to eat like a Christian.' It was an everlasting pity Alden contradicted him, for he broke out like one moon-distracted mad: 'I'll be d—d,' says he, 'if ever I saw a Yankee that didn't bolt his food whole like a boa constrictor. How the devil can you expect to digest food that you neither take the trouble to dissect nor time to masticate? It's no wonder you lose your teeth, for you never use them; nor your digestion, for you overload it; nor your saliva, for you expend it upon the carpets. You Yankees load your stomachs as a Devonshire man does his cart, as full as it can hold and as fast as he can pitch it in with a fork, and drive off. And then you complain that such a load is too heavy for you.'"

# Reports of Societies.

## NEW YORK SURGICAL SOCIETY.

*Stated Meeting, May* 24, 1881.

DR. H. B. SANDS, PRESIDENT, IN THE CHAIR.

DR. JOSEPH W. HOWE read a paper on

THE BEST MEANS FOR ARRESTING HEMORRHAGE IN EXTIRPATION OF THE TONGUE.

Special reference was made to ligation of the lingual artery near its origin as a preliminary operation, first performed by Dr. George F. Shrady, and subsequently by himself. (See MEDICAL RECORD, vol. xiv., p. 204.) According to statistics, however, as he had been able to collect them, the use of the ecraseur had given the best results.

DR. BRIDDON said that, in the execution of such cutting operations for the removal of the tongue as necessitated a transverse section far back, and in which it was considered proper to make a preliminary ligation of its nutrient artery, he had no hesitation in saying that the proper place for the application of such ligature was upon the lingual outside the submaxillary triangle, in the superior carotid triangle, between its origin and its dorsal branch. The point at which that branch is given off, and its size varied, so that occasionally it might suffice to tie within the triangle; but cases had demonstrated that it was not safe to rely on a ligature applied to that portion of the vessel when it was necessary to remove a large part of the organ.

In Dr. Stimson's case there was hemorrhage, but not of a serious character, when the posterior transverse section was made.

In a similar operation, in the same hospital, by Dr. George F. Shrady, in which he tied the lingual outside the triangle, the section of the tongue was virtually bloodless.

By an incision parallel with the inferior border of the jaw, and between it and the hyoid bone, the tongue might be drawn out sufficiently far to permit the removal of its larger portion, securing vessels as divided, and thus avoiding the dissection necessary for preliminary ligation of the lingual.

He had witnessed the removal of the tongue by the President, Prof. Sands, in which the sections were made by the galvano-caustic wire; the operation was completed without the loss of any blood, and if such an operation secured the patient against the danger of secondary hemorrhage, he would certainly regard it with favor.

THE PRESIDENT said that he could speak only of his own experience, except in a single case occurring in the practice of a colleague, in which secondary hemorrhage occurred and proved fatal. In that fatal case, however, the hemorrhage might have been due to the patient's imprudence, as she left the hospital a short time after the tongue was removed, and engaged in active exercise. He had notes of *five* cases of cancer of the tongue in which he had operated by means of the galvano-cautery. In two of these there was secondary hemorrhage. In one it occurred on the ninth day. The patient bled for several hours, and although no large vessel was opened, the loss of blood was sufficient to cause syncope, and he was found in that condition by his medical attendants. Under the use of persulphate

of iron and pressure, the hemorrhage ceased and the patient made a good recovery.

In the second case the bleeding occurred on the sixth day, and was from an artery which at the time of the operation had been divided with the knife of the galvano-cautery, this instrument having been employed to remove a portion of the diseased mass that could not be surrounded with the platinum wire. A silk ligature was applied to the bleeding artery, and it was at this point that secondary hemorrhage took place. This was successfully controlled by the reapplication of a ligature.

This case could hardly be cited as one of secondary hemorrhage following the use of the galvano-cautery wire.

He had also performed amputation of the tongue, by means of a heated wire, in a case of congenital hypertrophy. The patient recovered without accident. In cases of cancer he had not attempted to remove the tongue when the disease involved the root of the organ as far back as the line of the circumvallate papillæ; he thought the use of the wire was practicable, although difficult. But the difficulty was reduced by adopting Bryant's suggestion of thrusting pins through the tongue behind the disease, and slipping the wire over the pins, which served to keep it in position, and to prevent it from making an oblique section.

The President thought that the question as to the first method of operation in cancer of the tongue was of much interest at the present time, owing to the great success obtained by foreign surgeons in cases which we had hitherto considered unmanageable. As regards the operation of tying the lingual artery, he thought it desirable to correct a statement made by Dr. Howe, and also to refer to one or two points concerning the anatomy of the blood-vessel. Dr. Howe was in error in stating that Dr. Shrady was the first surgeon who had proposed to ligate the vessel near its origin as a preliminary measure to the removal of the tongue. Demarquay proposed tying the artery, in cases of cancer, for the purpose of cutting off the supply of blood; but he tied the artery beneath the hyoglossus muscle. The operation for tying the artery in the place where it was ligated by Dr. Shrady, and subsequently by Dr. Howe, was first performed in 1834, by Mirault. He undertook to perform it upon both sides of the neck, and found the operation extremely difficult. Failing to complete the operation upon the left side, where he was unable to find the artery, he then proceeded to ligate the vessel upon the right side, and succeeded after a long operation, in which a number of veins were tied. The operation performed by Mirault in 1834 was repeated in 1836 by Flaubert, who made a more extensive dissection than that made by Mirault, and succeeded only after dividing the hypoglossal nerve, pharyngeal veins, the external jugular, and the lingual. How often this operation had been performed, Dr. Sands was unable to say, but he thought that this method had been early abandoned, on account of the difficulty and danger attending it. At a later period, Blandin and Malgaigne proposed to tie the artery in what might be called the second surgical division of the vessel, where it lies beneath the hyoglossus muscle, a little above and parallel to the os hyoides, and behind the posterior belly of the digastric muscle. It was said that a ligature applied to this part of the artery would be placed behind the point of origin of the dorsalis linguæ.

Malgaigne performed this operation, which is the one generally performed by French surgeons, including Demarquay.

The remaining, or third division of the vessel, lies in the digastric triangle, in the space where the artery is bounded by the posterior belly of the digastricus outside, the hypoglossal nerve above, and on the inside by the fibres of the mylohyoideus muscle, under which runs the hypoglossal nerve. There the artery is much more readily found than in any other part of its course, and a sufficient number of operations have been performed to prove that it is a practical and easy procedure. The objection that, if the artery is tied in that locality, the operation does not render the tongue bloodless, is perhaps theoretical. Dr. Briddon's case would go to show that it is not, although he says that the hemorrhage was not great. But the large experience of German surgeons proves the objection to be untenable. The dorsalis linguæ artery is a very inconstant branch; usually it is small. It is inconstant in its origin, and probably often arises anterior to the point where a ligature is applied to the main artery in the digastric triangle. It is also well known that the lingual artery, in that part of its course which intervenes between its origin and the posterior border of the hyoglossus muscle, is subject to variations; sometimes it is higher than normal, arising from the facial; sometimes lower, arising from the superior thyroid; and these variations increase the difficulty of applying a ligature in this locality. Beneath the hyoglossus muscle, however, its course and position are nearly constant.

The French, for the most part, tie the artery beneath the hyoglossus muscle, as recommended by Malgaigne.

The Germans recommend that it be ligated in the digastric triangle, where it is most easily found. This operation is the one performed by Billroth.

Woelfler has collected forty-nine cases in which the operation has been performed in recent years by different surgeons. Only one proved fatal, in consequence of septicæmia.

Billroth is reported to have tied the lingual artery sixty-three times in the digastric triangle as a preliminary step to extirpation of the tongue. In ten patients the operation was performed upon both sides. Only one had secondary hemorrhage; this was readily controlled; the patient recovered. In all cases the tongue was rendered bloodless by a ligature applied to the lingual artery in the digastric triangle.

It seemed to Dr. Sands, therefore, that in view of the difficulties and the dangers encountered in applying a ligature to the posterior part of the vessel, and in view of the ease and safety with which the anterior operation can be performed, and of the protection it affords against loss of blood, it is the operation which should be imitated by us, in order to determine whether our results will be equally favorable with those obtained in Germany.

It may be interesting to describe how the operation for extirpation of the tongue, in severe cases, is performed at the Vienna Hospital.

The first step is to tie the lingual artery upon one or both sides. Then, if the submaxillary gland is diseased, it is removed; but, before its excision, the facial artery is ligated where it passes across the jaw, and also where it enters the gland. Moreover, the artery is sometimes tied when the submaxillary gland is not removed, in cases in which it is intended to remove the floor of the mouth. It is said that by ligating the facial artery the operation in the floor of the mouth can be rendered bloodless.

The incision is then extended downward and forward, when necessary for removal of enlarged cervical lymphatic glands. The tongue is then drawn forward by a vulsellum, the angles of the mouth being retracted; the mucous membrane is divided, and the tongue removed with scissors.

There is another operation, performed by Kocher, who has reported fourteen cases, with thirteen recoveries. He makes an incision along the inner margin of the sterno-cleido-mastoid muscle for several inches, and joins to it one running forward and upward to the margin of the jaw near the symphysis. The flap is dissected up, the pharyngeal walls exposed and opened, and the tongue removed by means of the galvano-cautery wire.

As a preliminary step, a tracheal tube is used. By this method very radical operations can be performed, so far as the tongue is concerned, and some of the patients have remained cured for years; but it does not seem to be so well adapted for removal of the floor of the mouth as the operation performed by Billroth and Czerny.

Dr. Charles McBurney thought that some distinction should be made with reference to the situation of the disease in the tongue when discussing the adoption of preliminary measures for preventing hemorrhage.

He thought it unnecessary to apply the acupressure safety-pins devised by Dr. Howe, because any case which would admit of the use of such an instrument would easily admit of the application of ordinary ligatures to the cut vessels.

Dr. Howe said that all he proposed to do with the pins was to compress all the vessels upon one side of the floor of the mouth, then make the necessary incision, ligate the cut vessels, and then remove the instrument and introduce and clamp it upon the other side.

The President thought it would be difficult to apply such an instrument far back where the operator would wish to apply it, if at all.

Dr. Howe had had no difficulty in introducing the pins on the cadaver, but had not used them on the living subject.

The President remarked that a similar expedient had been proposed by thrusting through the centre of the tongue a curved needle armed with a double ligature, and then constricting the tissues upon either side sufficiently to prevent hemorrhage. But it had not come into general use.

Dr. Howe said that it was Velpeau's method.

Dr. Markoe had adopted it in one case satisfactorily.

Dr. McBurney thought that such a device would be well if blood could not be prevented from going into the larynx by other methods. The use of Trendelenburg's tracheal tampon, or of a sponge-tampon, in the pharynx, was so effectual in preventing the passage of blood into the air-passages, that the only question to be considered was the quantity of blood lost, and he thought that was not to be considered in comparison with the annoyance of the preliminary use of the safety-pins and clamp.

Dr. J. C. Hutchison had operated several times for extirpation of the tongue, and, in one case, went behind the circumvallate papillæ. In all his cases he had arrested the hemorrhage by *torsion*, and secondary hemorrhage had not occurred.

### EPITHELIOMA OF THE TONGUE.

Dr. Lewis A. Stimson presented a specimen of epithelioma of the tongue, in which the disease was situated well back upon the left side, in a man sixty years of age. The tumor had been developing less than a year, and caused distress, pain, and an offensive discharge. Tracheotomy was performed as a preliminary operation, and the tongue was removed according to the method recommended by Kocher. An incision was began just behind the angle of the jaw on the affected side, and carried down parallel to the anterior border of the sterno-cleido-mastoid muscle to the hyoid bone; then forward along the bone and anterior belly of the digastric, nearly to the ramus of the jaw. The triangular flap thus formed was dissected up, the submaxillary gland exposed, the facial artery tied before it entered the gland and after its exit from it, the lingual artery tied in the digastric triangle, and the gland then removed. Two stout silk ligatures were then placed on the tip of the tongue, one upon either side of the median line, the tongue divided with scissors along the median line back to the widest part of the ulcer, and then separated for nearly the same distance from the floor of the mouth. One blade of the scissors was then thrust through the floor of the mouth into the external opening, and the soft parts divided along the ramus back toward the angle of the jaw, using the finger in the mouth as a guide to keep outside of the affected parts. After the anterior pillar had been passed, the finger of the left hand was passed into the pharynx, the constrictor pressed forward into the external wound and divided with a knife from without inward. The affected half of the tongue was then drawn out through the opening under the jaw, and its removal completed by cutting below and behind it with scissors. The cut surface was in plain sight and easy reach all the time, so that any bleeding points could be secured. As a matter of fact, there was bleeding, and that in a very slight degree, from only two points, where the incision had passed to the right of the median line. The posterior line of the incision passed about half an inch in front of the epiglottis. The surface left after removal was explored, and some suspicious tissue at a point corresponding to the tonsil removed with scissors.

On the next day the patient was sitting up in bed, and examining his mouth with a mirror. From that time the case progressed in the most favorable manner until the sixteenth day, when vague pains occurred in the calf of the leg. On the seventeenth day he had a violent chill. On the eighteenth day his temperature was 105¾° F., and on the next day 97½° F.; but on the following day it rose again, and pain occurred above the knee, but not in the knee-joint. Within two or three days a phlegmon appeared upon each elbow, and the patient died on the seventh day after the chill.

At the autopsy, *six* pyæmic abscesses were found: two in the calf, two in the knees, and two in the elbows.

Dr. Stimson was unable to account for the occurrence of the pyæmia. The man was fed up to the sixteenth day through an œsophageal tube, but on that day, for reasons in which he had no part, the use of the tube was intermitted.

A pledget of absorbent cotton in the mouth, and frequently renewed, was of great service in diminishing the discomfort of the patient. The wound at either angle was united for a distance of an inch and a half, leaving the central portion open. During the progress of the treatment the wound became nearly circular in shape, and at all times drainage was complete. There was no evidence, either during

life or at the post-mortem, of return of the disease on the surface of the sore.

The operation was very much easier to perform than he had reason to anticipate from experiments upon the cadaver.

Dr. Post remarked that Dr. Stimson's case seemed very promising until the pyæmia developed.

RESECTION OF THE PHALANGES OF THE MIDDLE FINGER.

Dr. A. C. Post presented a girl, eight years old, who in the month of December last was injured in the palmar surface of the middle finger of one hand, by a steel pen, which gave rise to inflammation that was not treated very promptly, and she suffered from swelling, pain, etc., incident, doubtless, to injury of the theca of the tendons. Finally, a free incision was made, but a portion of the flexor tendon sloughed, and when she came to him in February there was marked flexion of the first upon the second phalanx, and the joint between the second and third phalanges was immovable. He performed the operation described in the transactions of the American Medical Association for 1879, which consists in resection of the distal end of the first phalanx. Subsequently he performed a similar operation upon the distal extremity of the second phalanx, and the result was that the finger had been straightened, but its length was somewhat decreased. There was motion at the first articulation, but none at the second.

The operation consists in making an incision in the median line on the posterior surface of the finger, dividing the skin, splitting the tendon, dividing the periosteum, and removing sufficient bone to give liberty of motion and bring the finger into a straight position. He had not known any great amount of suppuration or reaction to follow the operation.

Dr. L. M. Yale presented two patients upon whom

AMPUTATION OF THE PENIS FOR EPITHELIOMA

had been performed. In one case the operation was performed by Dr. L. A. Stimson, and in the other by himself. In both cases the organ was removed close to the pubes. In both cases a large portion of the penis was involved by the disease. In Dr. Stimson's case the wound had healed completely. In his own case a few granulations remained, but they were steadily diminishing.

MYOTENOTOMY FOR CLUB-FOOT.

Dr. A. C. Post reported a second case in which he had made a free incision across the sole of the foot, dividing all resisting bands down to the bone. The patient was two and one-half years of age, was under the care of Dr. Jacobi, and had double talipes equino-varus. On the right side there was no marked rigidity, but on the left side there was great rigidity, and upon that foot he operated, and the foot was brought nearly into its normal position. There had been slight constitutional excitement after the operation, but it was subsiding, and the child was in good condition. In the case reported at the last meeting of the society, a trifling amount of sloughing of the integument at the outer end of the wound had occurred, perhaps 8 mm. in length by 6 mm. in width, but a clean surface was left, and the granulations were rapidly contracting. The foot was in a normal position, and he thought there would be no difficulty in keeping it so.

Dr. Post also exhibited a photograph of

EPITHELIOMA OF THE LOWER LIP,

which was removed with the knife two years ago in July next, and there has been no return of the disease.

Dr. Fred. Lange presented a portion of bone removed from the skull of a boy nearly four years old. The history of the case was that two boys were playing with bones taken from the wing of a turkey, and, quarrelling, one struck the other upon the head with a bone, and inflicted a slight wound, which did not attract much attention. The small wound did not heal; suppuration took place about a week after the injury, and an abscess was opened by the attending physician, and a fistula remained, from which there was a considerable discharge. The boy became pale, weak, developed constitutional symptoms, vomited readily after taking food, and, when Dr. Lange saw him, about four weeks afterward, he detected bare bone at the bottom of the wound. Tentative treatment was tried for a week with benefit, and Dr. Lange then cut down, and, after dividing the walls of the fistula, found the small piece of bone detached, which he presented. Considerable pus escaped, and he thought it had accumulated beneath the dura mater, which seemed to have been perforated by the suppurative process. The opening was at the site of the large fontanelle, and with his finger he could feel upon the left side of the wound what he thought was the falx cerebri. He was unable to find any evidence that the internal table was fractured to a greater extent than the external. He regarded the injury as due to the blow given with the bone from the turkey-wing. The case, thus far, was progressing favorably.

The President presented a specimen of

CANCER OF THE THYROID BODY,

with the following history:

John Hugg, aged forty-four years, single, weaver, Switzerland, admitted to Roosevelt Hospital, March 28, 1880; family history good; no venereal. In 1865 had a rapidly growing swelling in front of the neck, which disappeared under external application. First noticed a small tumor in front of the neck, opposite the thyroid cartilage, seven months ago. This gradually increased in size, when, four or five weeks ago, its growth became quite rapid, and a second swelling appeared on the left side of the neck. During the past two weeks, lancinating pains, dyspnœa, choking sensation, and increasing hoarseness.

*Upon admission.*—Large, dense, elastic tumor, involving the thyroid gland, extending upward to the chin and downward to the manubrium sterni. Circumference of the neck, twenty-two and one-half inches. Tumor not tender. Pulsation of the right carotid cannot be felt; that of the left external and posterior to the tumor. Complains of dyspnœa; no dysphagia; voice hissing; talking painful.

May 12th.—Tumor unchanged in size.

May 17th.—Slight attack of dyspnœa on 15th, again to-day, and died in a few minutes.

*Autopsy.*—Trachea, bronchi, and lungs congested; vocal chords approximated; liver, kidneys, and spleen congested. Large bilobed tumor of thyroid, weighing four pounds, nineteen inches in circumference. Vertical measurement of right lobe, six and one-fourth inches; of left, five inches; and of the isthmus, four inches. Both lobes extended backward to the vertebral column. The right lobe rested on the right side and in front of the trachea; the

isthmus and the left lobe to the left of the trachea. The right carotid was behind the right lobe; the left carotid external, and somewhat posterior. The cervical glands were slightly enlarged; manubrium sterni infiltrated; secondary nodule at the left sternal end of the clavicle.

The society then adjourned.

## MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

*Stated Meeting, June* 27, 1881.

DR. A. E. M. PURDY, PRESIDENT, IN THE CHAIR.

THE JAPANESE OTACOUSTIC FAN AND OTHER AIDS TO HEARING,

was the title of a paper read by DR. SAMUEL SEXTON (*vide* p. 286).

QUEBRACHO IN DYSPNŒA.

DR. O. B. DOUGLAS read the report presented by the committee from the Therapeutical Society. The remedy had been tried in thirty-two cases, embracing spasmodic asthma, with or without emphysema, cardiac dyspnœa, the dyspnœa of Bright's disease, of aneurism, of pneumonia, etc., and of those, relief to a greater or less extent was afforded in twenty-one; no relief in ten; and in one case the dyspnœa was augmented. The respiratory centre was believed to be the seat of its action, and it was regarded as not necessarily only palliative. There was no evidence that it was liable to produce disagreeable after-effects.

DR. E. R. SQUIBB, of Brooklyn, upon invitation, made a few remarks, in the course of which he suggested that in the twenty odd cases in which relief was reported as having been afforded by the use of quebracho, the remedy was used, as it seemed from the report, in conjunction with digitalis or other remedies.

Again, in the larger number of cases, the quebracho produced nausea, and in some of the cases the nausea was so marked as to prevent the further use of the drug. Nausea seemed to be a product of the administration of the medicine, and how far the nauseating effect might have given rise to the relief obtained was a question which the report had left open. In almost all forms of dyspnœa the nervous element was prominent, and in such cases very many agents relieved, and the question arose: Did the evidence show that it was entitled to special recognition as a duplicate of other agencies which were better known and of which the use was better understood? Dr. Squibb thought the testimony was not at all conclusive that quebracho was any valuable addition to the materia medica.

DR. RALPH PARSONS read a paper on

THE PRIVATE CARE OF THE INSANE.

The object of the paper was to speak of the various provisions made for the private care of the insane, and to discuss the question of the necessity for such care. Reasoning from statistics, he believed that private provision for the treatment and care of this class of cases would soon be a necessity.

He regarded the general influence of a large number of insane associates as prejudicial. The intellectual and moral faculties of the insane should be stimulated by association with the sane. The first beginning of mental improvement sometimes seemed to depend upon the removal of the patient from large wards in public institutions to family associations. Dr. Parsons believed that no great harm would ensue from a fair trial of the treatment of the insane at home, but a physician must determine the propriety of such a plan in each case.

His conclusions were:

1. Public institutions had heretofore been, and for an indefinite period in the future would be, inadequate to receive and care for the insane who needed to be removed from their own homes.

2. Asylums, on account of the necessary economy, and overcrowding, and other reasons, could not be counted as the best establishments for the treatment of the insane.

3. The smaller the number of insane persons associated with each other, the better it was for the patients.

4. The greater the ratio of sane persons associated with the insane, the better it was for the latter.

5. There were asylums, private institutions, private homes, which afforded peculiar advantages which could not be afforded by public asylums.

6. The treatment of many, if not the majority, of the insane in private houses was feasible, and had special advantages.

7. Many indigent insane persons might be satisfactorily cared for in private families.

8. Whenever more than one insane patient was under care in the same house or family, a competent physician should direct their management and care.

9. Every insane person should be under the care of a competent physician.

10. Recent cases of insanity should be treated at home, and certain chronic cases might remain at home permanently, but it was for the best interests of the majority of insane patients that provisions be made for carrying on their treatment elsewhere.

On motion by DR. SEXTON, the society tendered Dr. Parsons a vote of thanks for his interesting and valuable communication, and then adjourned.

## ARMY NEWS.

*Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from August* 28, 1881, *to September* 3, 1881.

BYRNE, CHAS. C., Major and Surgeon. Relieved from duty at Angel Island, Cal., and assigned to duty as Post Surgeon at Benicia Arsenal and Attending Surgeon at Benicia Barracks, Cal. S. O. 142, Military Division of the Pacific and Department of California, August 23, 1881.

COUES, ELLIOTT, Capt. and Asst. Surgeon. Granted leave of absence for one month, to take effect when relieved by a medical officer, with permission to apply for three months' extension. S. O. 97, Department of Arizona, August 22, 1881.

KING, WM. H., Capt. and Asst. Surgeon. To accompany Battery I, Third Artillery, to Yorktown, Va., and remain with it until further orders. S. O. 153, Department of the East, August, 31, 1881.

WHITE, R. H., Capt. and Asst. Surgeon. Granted leave of absence for twenty days from 5th inst. S. O. 125, Department of West Point, September 2, 1881.

ADAIR, GEO. W., Capt. and Asst. Surgeon. Granted leave of absence for two months. S. O. 196, A. G. O., August 26, 1881.

STRONG, N., First Lieut. and Asst. Surgeon. To

proceed to Park City, Utah, report for temporary duty to commanding officer of the troops *en route* to Fort Thornburgh, Utah, and remain on such duty until arrival of Capt. W. C. Shannon, Asst. Surgeon U. S. Army. S. O. 84, Department of the Platte, August 29, 1881.

ARTHUR, W. H., First Lieut. and Asst. Surgeon. Granted leave of absence for one month, to take effect from date of return of Surgeon Forwood to Fort Omaha. S. O. 82, Department of the Platte, August 24, 1881.

## Medical Items and News.

CONTAGIOUS DISEASES — WEEKLY STATEMENT. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending September 3, 1881.

| Week Ending | Typhus Fever. | Typhoid Fever. | Scarlet Fever. | Cerebro-spinal Meningitis. | Measles. | Diphtheria. | Small-pox. | Yellow Fever. |
|---|---|---|---|---|---|---|---|---|
| Aug. 27, 1881. | 1 | 59* | 75 | 2 | 14 | 81 | 6 | 0 |
| Sept. 3, 1881. | 0 | 18 | 74 | 8 | 13 | 82 | 8 | 0 |

* 38 Cases in Public Institutions.

A HEAD OF RYE, WITH HALF-INCH OF STRAW, DISCHARGED FROM AN ABSCESS IN THE CHEST AFTER HAVING BEEN SWALLOWED.—Dr. Howell White, of Fishkill, N. Y., writes:

Can you give me space in the pages of your valuable journal for the brief recital of the following case, which to me was one of great interest, and perhaps will be so considered by others of the profession.

On the morning of March 9, 1881, I was called to see Peter K——, a young man of seventeen or eighteen years of age, well developed, though not very robust, because of rapid growth.

I found him suffering from an acute attack of pleuritis, for which I gave him the usual remedies, also blistering the side for a considerable space.

He did reasonably well, passed through the acute stage without any material drawbacks, until the period of convalescence. This was very slow, there remaining more or less fever at night, loss of appetite, general debility, and *night-sweats*, and it was not until in April that I dismissed him, considering him cured.

About ten days from first dismissal I was again called to see him. This time I found him suffering from a slight attack of scarlatina. It following the course of scarlatina with us this year, was very light, and in a few days he was convalescent, though his general health seemed at low ebb, for which I could not account.

About this time he complained of a dull pain in his right side (the seat of the old pleuritis), which prevented him from sleeping on that side. Attending it there was cough, fever, and night-sweats. Examination revealed a large, flat swelling, perhaps fifteen inches in circumference. Palpation gave negative results—only extended dulness over the affected side.

At this time I called in consultation my father, Dr. L. H. White. He pronounced it an abscess, and probably *external*, which was the point in question (*i.e.*, abscess or empyema). He was put upon tonics, and the abscess treated as usual. Days passed, and no material change. I therefore desired a second consultation, and we together proposed Dr. Murdock, of Cold Spring. He examined the lad, and expressed the opinion that the abscess was external, though no pus could be obtained by the hypodermic needle.

At Dr. M.'s suggestion, he was ordered to bed, tonics, beef tea, punch, etc., given at regular intervals. He then began to improve, though the abscess showed no signs of discharging.

But, to make brief its history, I finally cut it, and in four places. The discharge was great and long-continued, lasting six or eight weeks.

Shortly after the opening of the abscess the lips of the wounds *everted*. This suggested the thought of necrosed bone; yet, upon probing, no bone could be discovered.

Poultices were continued, and night and morning a solution of carbolic acid was injected into the abscess.

On June 8th I received a call from Dr. Murdock at my office, as he expressed great interest in the case. I related to him what had transpired since he saw it. He exclaimed upon its long continuance, and at that time suggested the possibility of diseased bone, and I desired, should it be so, that he see the patient again with me.

From that time until June 16th I did not see the patient. On that day he came to my office, saying: 'One of my ribs is coming out.' I examined him, and, sure enough, small spicula of bone (as I then supposed, were protruding from the upper opening. They were solid, and I did not attempt their removal at that time, intending to appoint a day and invite my friend Dr. M. to assist me. I, however, introduced my probe into the wound, and *bone I could not find.*

By appointment I visited him again on June 21st. Examination showed the same state of affairs, except that the supposed bone was loose. I caught it with my fingers and removed it, and lo! I had not bone, but a *head of rye*, with one-half inch of straw attached, as perfect as on the day on which he swallowed it, which was while threshing on the 5th of March, just four days before the pleuritis developed itself, and one hundred and nine days after it had taken up its residence in his body.

I do not offer any positive solution to this medical and surgical problem, or decide which of the two roads it chose in its explorative course, contented to know that it was safely delivered from between the sixth and seventh ribs of the right side, and leave it with my brother practitioners, asking if such things often occur, and if nature is not more lenient with us mortals than we give her credit for.

A CURIOUS SPECIFIC FOR CONSUMPTION.—A well-dressed and apparently intelligent woman appeared at the dog-pound in this city the other day, and asked for the fore-quarter of a dog that had been drowned. She said that her sister had consumption, and that some one had told her the fore-quarter of a drowned dog made into a stew would cure the disease. She got the meat, and went away contented.

THE FIRST ANNUAL MEETING OF THE AMERICAN SURGICAL ASSOCIATION will be held at Oriental Hotel, Coney Hotel, September 13th, 14th, and 15th. Papers have been promised by several gentlemen.

A Peculiar Case of Hydrocephalus — Head elongated so that Presenting Part appeared to be a Normal Head.—Dr. John J. Skelly, of Potomac, Ill., writes: "The profession is prone to rush into print with every new success, and sometimes victory is proclaimed before it is won. We seldom see any brilliant mistakes recorded, but I have often thought that if some great medical luminary, with a large experience, would give us a book in which all his mistakes were plainly detailed, he would confer a great boon upon the younger members of the profession. A mistake in diagnosis in a case I was recently called to is my excuse for this writing. On April 11, 1881, I was called to attend Mrs. T——, aged twenty-eight, primipara. She had been in labor about six hours. Owing to her age and physique, I had anticipated a tedious labor. Upon examination I *thought* I discovered the head presenting in the first position, and assured the lady that 'everything was all right,' but that she might expect a tedious labor. As the case progressed she and her friends discovered that the latter proposition was strictly true. There was nothing unusual in the case that I could discover, and for six hours I thought the labor progressed naturally. The head was distending the perineum, which, though very rigid, was gradually yielding. The presenting part would project beyond the vulva during the pains, and recede again as they went off. After waiting until patience ceased to be a virtue, I dispatched a messenger after my instruments and counsel. I had given the patient fluid extract of ergot with no avail. Dr. L. C. Messner soon arrived, and after I had detailed the case and he had thoroughly examined the patient, his opinion coincided with my own, 'a very tedious case.' The child was dead, and had been for several days. We concluded to deliver with forceps. Accordingly I applied them and undertook to deliver, while Dr. M. took charge of the anæsthetic. The forceps locked all right, but I was unable to move the head. Dr. M. undertook it, The forceps slipped off, and we had to abandon any further attempt in that direction. Craniotomy was now the last resort. I perforated the scalp, when there was a gush of serum, at least half a gallon, which soaked me completely from head to foot. This is *the* interesting feature in the case. Who ever heard of a hydrocephalic presenting as a natural head in shape and consistence?

"Another peculiarity in the case is that after the serum had been evacuated and the bones of the cranium compressed so that the labor could be terminated, the head was found in the fourth instead of the first position. The child weighed fifteen pounds, minus the brain, part of the parietal bones, and the large quantity of serum. The woman has made an excellent recovery."

Medullary Cancer of the Pylorus.—Dr. Thomas C. Smith, of Washington, D. C., sends us the history of a case of the above, in which there was no pain or other symptom pointing to the disease during life. The anterior wall of the stomach was also affected, and a perforating ulcer formed at that point, which broke into an abscess in the sheath of the rectus muscle. This abscess communicated a pulsation from the abdominal aorta, which gave rise to the suspicion of the existence of an aneurism at that point.

The Effect of Hemorrhage upon the Corpuscular Richness of the Blood has recently been studied by Dr. Lyon, an American physician at Heidelberg. The experiments were made upon dogs and guinea-pigs. From 3.5 to 4.5 per cent. of the body-weight in blood was taken from the jugular vein. After the operation the red corpuscles diminish in number and continued to thus diminish for from one-half to several days, when the minimum was reached. This minimum varied with different animals. In dogs, the removal of blood to the amount of two per cent. of the body-weight would, in a few days, reduce the number of corpuscles nearly one-half.

The effect of hemorrhage upon the white corpuscles, however, was different. These increased in number for several hours, and continued in excess for several days. Hemorrhage reduced the number of red corpuscles, but increased the number of white.

The Chances of the Doctor.—There are in the United States 110 medical schools, having an annual attendance of 12,000 students, 3,000 of whom are graduated each year, and go forth to battle with life and competing M.D.'s.

This, associated with the historo-statistical fact that there are only about 600 persons to each physician now in the United States, makes appropriate the inquiry, What are we to do? Taking into consideration the fact that some of the more fortunate of the profession have more than their *pro rata* of patrons, others must have proportionally less; and while this is well enough for the former, it is, to say the least, quite sufficient to produce a lack of *patients* to the latter; and patients are just as requisite to the doctor in the battle of life as is patience to any other class of mankind.

What can be done? Those before-mentioned more fortunate of the healing tribe have, by public patronage and praise, become, so to speak, bloated bond-holders of the profession, and are not willing to close their offices and go forth to meet the honest granger and cheek him into buying a sewing-machine, or subscribing for a book, although the idea has, among the greater part of the profession, been entertained that they were going to do something of the sort. But, from the present indications, it can safely be declared no go; and now something must be done. The trouble is not that we have too many doctors, but we have got too few—people. The doctrines of Malthus were promulgated in ignorance, and are not deserving of any credence whatever; they are incompatible with the statistics and the wants of the profession.—*The Arkansaw Doctor.*

Chloral in Strychnia-Poisoning.—Dr. A. W. Parsons, of Brainerd, Minn., sends us the following facts concerning a case of strychnia-poisoning, which occurred recently in his practice:

"I was called, June 18, at 11.30 P.M., to see Mrs. J. H., who had taken into an empty stomach ten grains of strychnia crystals in one pint of water, at 11 P.M., with suicidal intent. I found her in a state of complete opisthotonos, with the convulsive twitchings characteristic of strychnia-poisoning, occurring about every two minutes, and lasting about thirty seconds each. She was conscious, and begged to be let alone, as the least jar in the room would cause a convulsion. I immediately injected into each arm sixty grains of chloral hydrate in a saturated solution; gave one drachm of pulverized ipecac; applied chloroform during convulsions, by inhalation. In about five minutes the convulsions became less frequent and violent, and in one hour and twenty minutes after the administration of the ipecac, she vomited copiously, after which the convulsions did not recur, and she rapidly recovered.

"As she was between five and six months pregnant, I expected a miscarriage; but at this time (five days after) she has had no symptom of it, and it may not occur.

"She came to me yesterday for relief from two quite promising abcesses—the result of the chloral injected. The case seems quite interesting, for it illustrates quite forcibly the power of chloral to counteract the poisonous effect of strychnine. As she did not vomit until eighty minutes after the ingestion of the strychnia, I am inclined to give the chloral and chloroform the credit for her recovery."

The Treatment of Cerebral Paralysis.—In a recent lecture (*British Medical Journal*) on the Pathology and Treatment of Cerebral Paralysis, Dr. Julius Althaus gives some useful suggestions regarding treatment. He does not take so discouraging a view of therapeutic measures as many, but thinks that few cases are met with in practice which may not be improved by judicious treatment.

In the first place, as regards actual repair of the destroyed capsule. The lecturer has had a very considerable number of cases in which there seemed to have been an actual restoration of the tissue. To secure such repair, he recommends, first, phosphorus dissolved in oil, in doses of one-thirtieth of a grain; second, the constant galvanic current sent transversely through the brain, by one electrode being placed on the right, the other on the left mastoid process, and also longitudinally by one being placed on the forehead, the other to the occiput. Such applications are to be made daily for five or ten minutes. Later on the current should be applied to the paralyzed limbs. Here faradization is also useful.

The second object in treatment is to counteract the sclerosing myelitis which is apt to follow the attack. For this we have ergot and the salts of gold and silver. Gold is given as a chloride, or better, as chloride of gold and potassium, in doses of one-eighth to one-half a grain, in pills. Silver is given as the oxide, nitrate, or phosphide, in the same doses. The three remedies may be tried in turn for a month, and that one used which seems to be most efficacious.

For promoting the absorption of the clot, iodide of potassium is useful. It must be used, as a rule, before the end of the first six weeks. It does no good in embolic softening.

Strychnia is a drug which should never be used in cerebral paralysis, according to Dr. Althaus.

The general health of the patient must be attended to. There are no watering-places which have any special therapeutic value. A moderately dry, bracing air is generally found best. High altitudes should be avoided.

Dr. Althaus estimates that twenty-five thousand persons, in England and Wales, die annually from cerebral paralysis, and that twice as many more are stricken down with it.

Syphilitic Mania. Complete Cure by the Mixed Treatment.—The following case is reported in the *Revista Frenopatica Barcelonesa*. The patient was a young Spaniard, who had served six years in the Cuban campaign. Being entrusted with the treasury of two regiments, and executing his duties with great zeal, his position was the cause of much mental fatigue. This probably brought about a cerebral congestion, which was followed by epileptiform seizures, extending over quite a space of time. Subsequently, a marked change was noticed in his disposition. Melancholia, loss of memory, and other symptoms of acute mania, together with an ambitious delirium, rendered it advisable to place him in an asylum. There it was observed that the elementary mental faculties were unaffected, but that the higher ones, reason, judgment, causality, etc, were completely deranged; association of ideas and co-ordination were lost. Acute general mania, with ambitious delirium and hallucinations, was diagnosticated, and ascribed to the common causes. Accordingly, opiates, chloral, and other nervous sedatives were exhibited, but only seemed to aggravate the malady. Finally, the use of the strait-jacket became necessary. The patient gradually failed, and became emaciated; sores appeared upon the sacrum, and death was near at hand. At this juncture it was ascertained that the man had had syphilis, and the cause of the mania was patent. Under the use of the iodide of potassium, associated with hypodermics of corrosive sublimate, the effects of treatment were evident in a few days; the fever and delirium were diminished in intensity; the autophagism ceased, and the character of the sores changed. At the end of three months, the patient was dismissed cured.

In Gastric Ulcer, to relieve the pain and irritability, and at the same time keep the bowels regular, Dr. Andrew Clark prescribes the following:

℞. Bismuth subnit.,
Magnes. carb..... āā gr. xv.
Liq. morph. hydrochloral..... ♏ xv.
Aquæ ad..... ʒ j.
M.

—*Correspondence of Canada Medical and Surgical Journal.*

The French Anti-Tobacco Society is a young, but energetic organization, which has just held an annual meeting. It now numbers one thousand members. It was founded by an army doctor, M. Decroix, who has given up his profession and dedicated his whole time and fortune to the interest of the society. The most interesting feature of the meeting was the distribution of prizes. Two old sailors received medals for giving up tobacco. A number of school-masters also received prizes for inculcating a holy horror of tobacco among their pupils.

Tobacco—A Parable.—Then shall the kingdom of Satan be likened to a grain of tobacco-seed; which, though exceedingly small, being cast into the ground, grew, and became a great plant, and spread its leaves rank and broad, so that huge and vile worms formed a habitation thereon. And it came to pass, in the course of time, that the sons of men looked upon it, and thought it beautiful to look upon, and much to be desired to make lads look big and manly. So they put forth their hands and did chew thereof. And some it made sick, and others to vomit most filthily. And it further came to pass that those who chewed it became weak and unmanly, and said "we are enslaved, and can't cease from chewing it." And the mouths of all that were enslaved became foul; and they were seized with a violent spitting; and they did spit, even in ladies' parlors, and in the house of the Lord of Hosts. And the saints of the Most High were greatly plagued thereby. And in the course of time it came also to pass that others snuffed it; and they were taken suddenly with fits, and they did sneeze with a great and mighty sneeze, insomuch that their eyes filled with tears, and they did look exceedingly silly. And yet others cunningly wrought the leaves thereof into rolls, and did set fire to one end thereof, and did suck vehe-

mently at the other end thereof, and did look very grave and calf-like; and the smoke of their torment ascended up forever and forever. And the cultivation thereof became a great and mighty business in the earth, and the merchantmen waxed rich by the commerce thereof. And it came to pass that the saints of the Most High defiled themselves therewith; even the poor, who could not buy shoes, nor bread, nor books for the little ones, spent their money for it. And the Lord was greatly displeased therewith, and said: "Wherefore this waste; and why do these little ones lack bread and shoes and books? Turn now your fields into corn and wheat; and put this evil thing far from you; and be separate, and defile not yourselves any more; and I will bless you and cause my face to shine on you." But with one accord they all exclaimed: "We cannot cease from chewing, snuffing, and puffing—we are slaves."—*Christian Secretary.*

ANTHRAX CURED BY THE INTERSTITIAL INJECTION OF CARBOLIC ACID.—In a Spanish medical journal, Dr. Muñoz publishes two cases of anthrax cured by the interstitial injection of carbolic acid. The first case was a man thirty-one years of age, of sanguine temperament and good constitution. In the upper part of the right hypochondrium he had an anthrax about the size of half an orange. Injections into the base of the tumor were practised with the following solution:

| | | |
|---|---|---|
| Carbolic acid..... | grms. | 5 |
| Alcohol..... | grms. | 10 |
| Aqua. dest..... | grms. | 100 |

After each injection (directed toward the centre of the tumor) compresses moistened with the same solution were applied. The pain diminished rapidly, and finally disappeared; the tumor decreased in size, and the temperature fell. Double injections were practised mornings and evenings for eight days, when complete cure resulted.

The second patient was a man aged forty-four years, of sanguine temperament and strong constitution. An anthrax of the size of a hen's egg appeared upon the postero-lateral aspect of the neck. The above treatment was followed out, and a cure resulted in a few days.

BRÜCKE'S THEORY OF THE CIRCULATION IN THE HEART DISPROVED.—A study of blood-pressure in the coronary arteries of the heart has lately been made by Prof. H. Newell Martin and Dr. W. T. Sedgewick, of Johns Hopkins University. These studies prove conclusively the error of Brücke's theory of the circulation in the heart. This theory, it will be remembered, is: that during the contraction of the heart the blood is driven into the aorta, pressing back the semilunar valves close against the walls. In this way the openings of the coronary arteries are stopped, and consequently no blood enters them during the heart's systole. In the diastole, however, the blood is thrown back against the closed semilunar valves, down into the sinuses of Valsalva, and then into the coronary arteries; therefore the heart is supplied with blood during the diastole, this blood-supply assisting in filling up the walls of the ventricles and dilating the heart again.

There have been a good many objections made to this theory before, but it has never been successfully disproved until now. Profs. Martin and Sedgewick, after many trials, managed to introduce a canula into the coronary artery of a dog. This canula was connected with an instrument for measuring pulsations in this artery. At the same time a similar instrument was introduced into the carotid artery, and synchronous graphic tracings were obtained. It was in this way proved that the pulsations of the two arteries were synchronous. Since, then, the pulsation in the coronary arteries occurred in systole, Brücke's theory is conclusively disproved.

THE PATHOLOGY AND TREATMENT OF THE DIARRHŒA OF PHTHISIS.—Dr. C. T. Williams has a series of articles upon this subject in the *Lancet.*

He divides the different diarrhœas of phthisis into three classes. The first includes those due simply to irritation or a catarrh of the intestines. The treatment consists simply in altering the dietary and ordering a few doses of alterative and purgative medicine, with some alkali to reduce the acidity. The second form is that arising from ulceration. The ulcers usually begin in the small intestine, near the ilio-cæcal valve; as the ulceration progresses, however, the large intestine becomes most affected. The treatment of this form requires very careful attention. It resolves itself into three sets of measures: (*a*) Rest in bed, with the administration of easily assimilable food, such as chicken-broth, beef- and veal-tea, milk-gruel, blanc-mange, always combined with *liquor pancreaticus*, after the methods described by Dr. Wm. Roberts. Koumiss also is highly recommended. (*b*) Warm applications to the abdomen, in the form of linseed poultices, turpentine stupes, or hot-water fomentations, to reduce the pain and produce derivation to the skin. In severe pain small blisters are very useful. (*c*) Internal medicines: bismuth and opium will answer in slight cases. The most powerful astringent is sulphate of copper in one-quarter or one-half grain doses. Of vegetable astringents tannic acid is the best, in four-grain doses. Indian ball is often efficacious. If the ulcerations are largely in the colon, injections or suppositories are often needed. The ordinary enemata of lead and opium will sometimes answer, but in severe cases a pint or a pint and a half of linseed-tea, combined with medicines, are needed. Linseed-tea seems to be especially efficacious. The third form of diarrhœa is due to waxy degeneration of the intestinal wall. This is hard to deal with successfully. The waxy degeneration indicates a need for phosphates of potash. The diarrhœa can only be treated, as in other diarrhœas, by the use of astringents.

THE AURAL AND LARYNGEAL HEAD MIRROR—A QUESTION OF PRIORITY.—Dr. F. Semeleder, of City of Mexico, writes: "In the MEDICAL RECORD for July 9, 1881, page 52, I find an instrument reinvented and redescribed which I am guilty of having invented and described more than twenty years ago. In speaking of the 'Aural and laryngeal head mirror,' the reinventor of which unhappily, but wisely, keeps his name a secret, I do not do so to claim priority, but just to make a wrong thing right, and I beg to refer you to my treatises, 'Die Rhinoskopie,' p. 9, Leipzig, 1862; 'Die Laryngoskopie,' p. 13, Wien, 1863; 'Rhinoscopy and Laryngoscopy,' translated by Dr. Edward T. Caswell, New York, W. Wood & Co., 1866, as well as the first edition of Josef Leiter's, of Vienna, illustrated catalogue.

TRI-STATE MEDICAL SOCIETY.—The seventh annual meeting of the Indiana, Illinois, and Kentucky Tri-State Medical Society will be held in the city of St. Louis, Mo., Tuesday, Wednesday and Thursday, October 25, 26, and 27, 1881. The profession of the "Mississippi Valley" are cordially invited to attend.

# Original Communications.

## AN AID TO THE MECHANICAL TREATMENT OF WEAK ANKLES AND INVERTED FEET.

By CHARLES F. STILLMAN, M.D.,
NEW YORK.
DELEGATE FROM THE AMERICAN MEDICAL ASSOCIATION TO FOREIGN SOCIETIES FOR 1881-82.

Although weak ankles and inverted feet comprise a class of cases constantly coming under the care of the general practitioner, they have hitherto received but little attention, owing mainly to the insufficiency of the mechanical contrivances provided for their treatment. If we examine the ligamentous structure of the ankle-joint, we observe that externally the ligaments are placed so as to allow more mobility than internally—nature evidently relying upon the inherent contractile power of the peronei muscles to hold the foot at its natural angles with the leg, and to perform all necessary eversion. The weakness or insufficiency of these muscles is of itself a sufficient cause of the deformity we are considering, even though the supports of the joint be otherwise normal; but these may also be unduly relaxed.

A tendency to turn the ankle under, to have it give way externally, to point the toes inward and downward, and an habitual stumbling, shuffling gait are the main symptoms displayed, and as every parent wishes a child to grow up with correct and graceful movements in walking, the occurrence of these defects, either singly or together, causes professional advice to be sought. There exists a feeling in the minds of the laity that it is almost useless to do so, so often has the remark been made to them by the surgeon consulted, "Let the feet alone; they will come out all right in time, as the muscle gets strong." But while the muscle is becoming restored under the influence of improved general health or local tonics, massage, etc., the deformity increases because the weight of the body must be carried by these insufficient supports, and every effort at walking upon a malplaced foot makes the deformity greater.

The physician is then driven to seek the aid of an instrument-maker to obtain a brace which will support the limb securely while the muscle is improving. The instruments which could hitherto be procured for this purpose afforded support, but allowed only a vertical motion in the ankle-joint. This feature was shared by all and is incorrect, since the normal degree of lateral movement should be permitted. If the reader will cross one thigh upon the other firmly, so as to allow no play whatever to any of the muscles above the knee, he will see that he can evert the foot in a horizontal plane about 45° by the action of the muscles *below* the knee, and if the external muscles of the leg be relaxed (not otherwise), he can invert the foot to the same degree, but its outer edge turns under.

I wish here to assert that a certain amount of lateral movement of the foot is absolutely necessary to the performance of its normal functions, and since the peronei muscles are the chief agents in the exercise of this lateral movement, any treatment directed toward the increase of power in these muscles, must provide for this lateral movement.

To allow this lateral movement to its fullest extent and yet keep the ankle supported, is the problem which has for a long time engaged the attention of surgical mechanicians.

The brace most commonly used is that represented in Fig. 1; but while this affords the ankle support on both sides, it allows no lateral movement whatever, and is therefore not satisfactory, for—with this

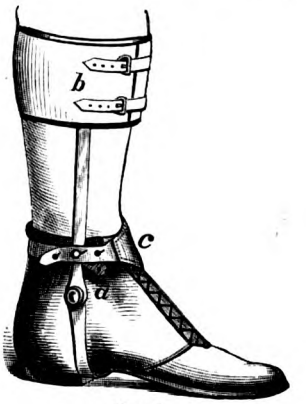


Fig. 1.

brace—if eversion be allowed at all, it is by the outward *rotation* of the entire limb on the pelvis, *and not a local eversion at the ankle.*

Now unless a deficiency of muscular power exists in the muscles of the thigh primarily, it is rare to find a case of inversion of the feet improved by an apparatus which rotates the thigh outward, as this of itself *does not* change the angle of the foot with the leg (which constitutes true inversion or eversion), and even if this condition be present, it is preferable to primarily effect eversion at the ankle, and secondarily effect a rotation of the entire limb at the pelvis, although the latter is rarely necessary, as in by far the great majority of cases of inverted feet, eversion at the ankle is alone required.

To effect eversion, a shoe is sometimes used with

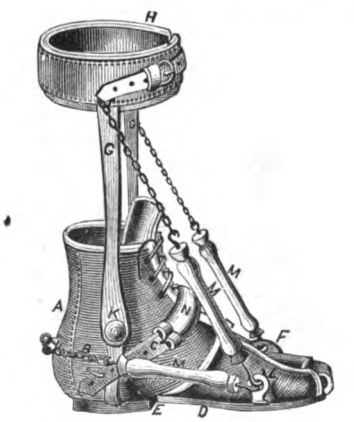


Fig. 2.

the sole divided transversely and the segments connected. In Prof. L. A. Sayre's club-foot shoe these segments are connected by a ball and socket-joint, and in Barwell's (see Fig. 3) the joint is that shown; in both, the eversion being attempted by the adjustment of appropriate rubber cords. The action of this form of apparatus, instead of being at the ankle,

is at the medio-tarsal joint, and consists in bending the anterior portion of the foot upon the posterior, and does not evert the foot as a whole, for by looking again at Figs. 2 and 3 we see that the rigid frame on either side of the heel is the same as in Fig. 1, and allows only a vertical motion at the ankle.

Another form of apparatus used for producing eversion is Prof. F. H. Hamilton's. This is shown

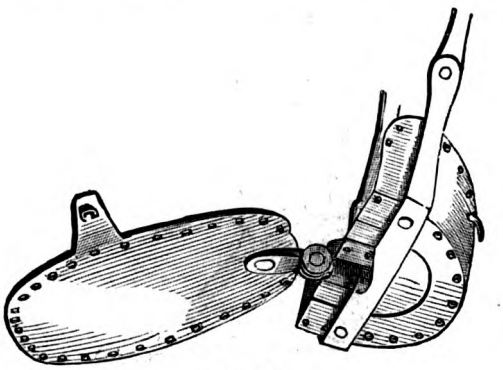

FIG. 3.

in Fig. 4, and is not practicable except on level surfaces, but is very effective, and produces a true eversion.

*Second.*—Prof. L. A. Sayre's rotating-screw (Fig. 5) is open to the objection that it allows no lateral movement at the ankle, and therefore, while effective as a rotator, is useless in producing eversion; and in Dr. N. M. Shaefer's and others the fault is the same.

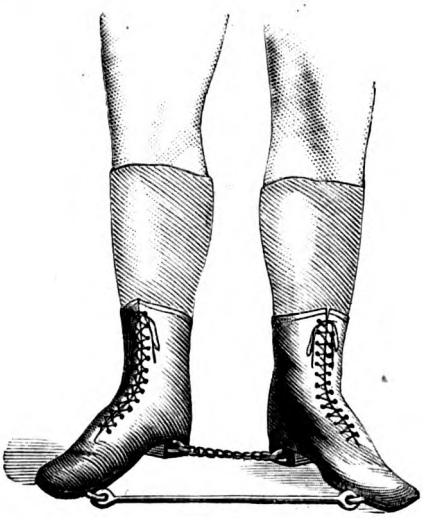

FIG. 4.

Dr. Gregory Doyle* has recently devised an apparatus which produces a constant elastic action, and, like the rotating-screw, it takes its basis of action from the pelvis, and is connected with the foot by a rigid attachment. It is an arrangement for pulling the outside of the foot upward at various angles with the leg, by means of a spiral spring, and does not admit of a true local eversion. (See Fig. 6.)

* Transactions American Medical Association for 1880–81.

This enumeration, which may serve as an introduction to the consideration of the subject proper, leads us to conclude that none of the contrivances at present in use are adapted to the physiological cure of the condition of weak ankles and inverted feet, since they do not simulate the functions of the peronei muscles, whose insufficiency causes the complaint, and do not produce eversion at the ankle-joint. These muscles have their origin above the ankle but below the knee, and their insertion below the ankle and mostly anterior to the medio-tarsal joint. Hence, to copy their action we must copy their arrangement and contrive a brace which will allow all normal motion of the foot on the leg, and still by elastic tension remedy the deformity.

I have devised an apparatus for the cure of this condition which is effective, because it is physiologi-

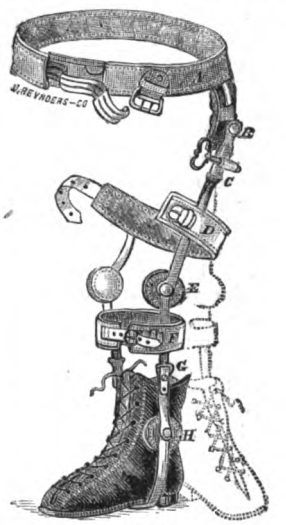

FIG. 5.

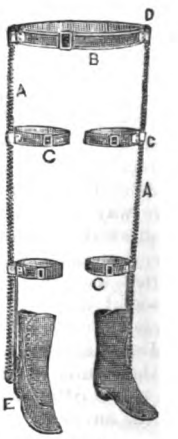


FIG. 6.

cal, and it exhibits several principles distinct from any heretofore introduced to the profession:

*First.*—It consists merely of a steel strip worn outside the leg only, so that there is nothing on the inside to interfere with the child's walking, and is extremely light and comfortable.

*Second.*—It can be worn with any shoe and is detachable at pleasure.

*Third.*—It is attached to the bottom of a shoe by a pivot in the centre of motion of the foot* (Fig. 7), thus allowing lateral motion in the ankle, a feature not possessed by any other form of apparatus.

*Fourth.*—The joint at the ankle is placed at the back of the heel, thus affording increased leverage for the action of the elastic cords and preventing the foot from going "over the centre" when the cords are in action.

*Fifth.*—The traction produced by the elastic cords corresponds to the lines of direction of the force exerted by the peronei muscles.

There are two essentials to the complete and perfect action of this brace: first, the pivot should be located at or near the centre of motion of the foot; and second, if an everting cord be used, the girth about the leg should be prevented from rotating.

The *centre of motion* (see Fig. 7) is the point where two bisecting lines meet when drawn through the foot while rotated at different angles; and, when a

* Ibid.

person stands erect, a line drawn vertically through the hip-joint should pass at or near this point; and this is the proper position in which to place an attachment between a brace and shoe, instead of against the heel, as in all other forms of apparatus.

Slipping of the leg-girth is prevented by the employment of a strip of moleskin adhesive plaster, as in Fig. 12, so placed as to have a tongue protrude in

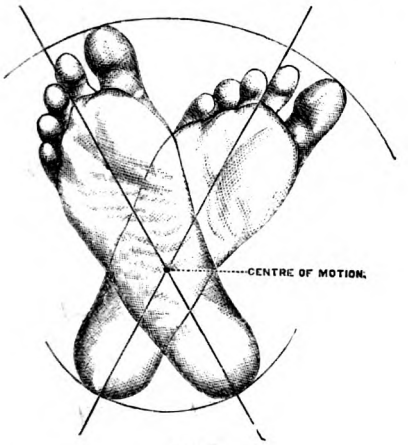


FIG. 7.

the median line posteriorly. When the brace is applied this tongue passes into the buckle of the girth, together with the tongue of the girth, effectually preventing the girth from slipping, as the buckle holds two girths, each pulling in a contrary direction; but the slight amount of this pulling does not inconvenience the wearer, owing to the distance between it and the everting cord. In the great majority of cases, however, no adhesive plaster is necessary.

Fig. 8 exhibits the pivotal attachment of the brace to the shoe when the everting cord is not attached; and Fig. 9 shows the change produced by the action of the everting cord when attached.

FIG. 8.

FIG. 9.

Fig. 10 shows the braces as they appear when applied, and their effect on the inversion. This brace is simple, unique, and efficient in all cases of weak ankles and inverted feet, and out of an experience with over fifty cases since the invention of the brace, I have yet to find one not permanently improved. The steel strip supplies rigid support, imitating the bone; the rubber cord and webbing supplies the elastic support, and the joints of the brace are so placed as to permit the utmost freedom of motion. The length, strength, and position of the elastic cords—to effect a cure in the least time—are of course left to the experience and discretion of the surgeon in charge. In weak ankles alone, without inversion, an elastic strap passing from the foot to the brace, as in Fig. 11, is to be employed. If inversion alone be present, the elastic cord is adjusted, as shown in Fig. 16, after the fixation of the girth, as shown in Figs. 14 and 15.

If both conditions be present, both cords must be employed, as in Fig. 12.

The following case I have quoted to show its effect in an extreme condition, and for its bearing upon the question of local eversion versus thigh rotation.

FIG. 10.

W. B——, aged fourteen years, Norwalk, Conn., was attacked with malignant diphtheria in November, 1876, and upon recovery the muscular system of the left limb was found of diminished size and tone. As time elapsed he became deformed—a lateral rotary curvature taking place in the back, and the pelvis becoming tilted by a sacro-lumbar* curvature until the affected limb was raised two inches from the ground, apparently that much shorter than its fellow. He was wearing a raised shoe when he came under observation, and the thigh of the affected side was

FIG. 11.

FIG. 12.

three and a half inches less than the other, the leg being two inches less. The curvatures of the back were relieved by measures to be described in a subsequent article, and the foot brought down to a level with the other (see Fig. 13). The inversion of the foot and the weakness of the ankle were extreme, and occasioned a very limping, lame gait. By the accompanying engravings—which are made from photo-

* This name, original with Dr. Stillman, is now introduced for the first time to represent tilting of the pelvis.

graphs taken July 16, by Klauser—it will be seen that the thigh of the affected side is disproportionately small (see Fig. 15), being two inches less in circumference at that time; so that I doubted the curative result to be obtained by the local evertor without accompanying it with a thigh rotator. But I found that the application of the local brace alone not only did turn the foot outward, but it also caused the entire limb to rotate normally—nature evidently demonstrating that when the foot becomes normally everted at the ankle, the proper degree of rotation of the hip will usually involuntarily follow, provided, of course, that no abnormal conditions of hip or muscles be present beyond insufficiency of muscular power.

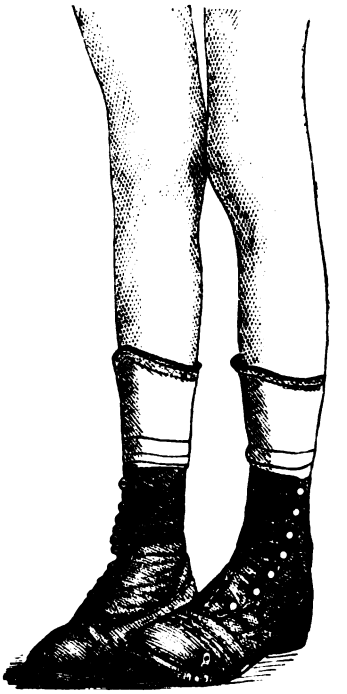

FIG. 13.

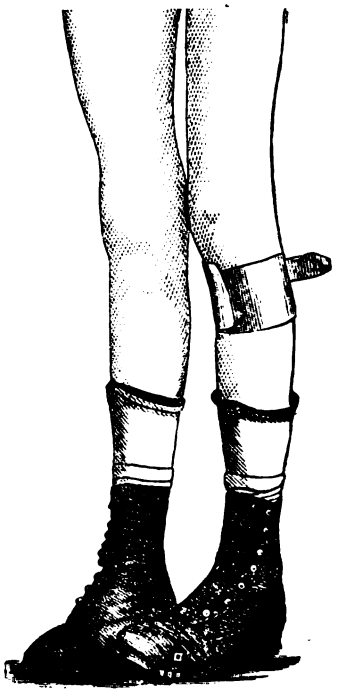

FIG. 14.

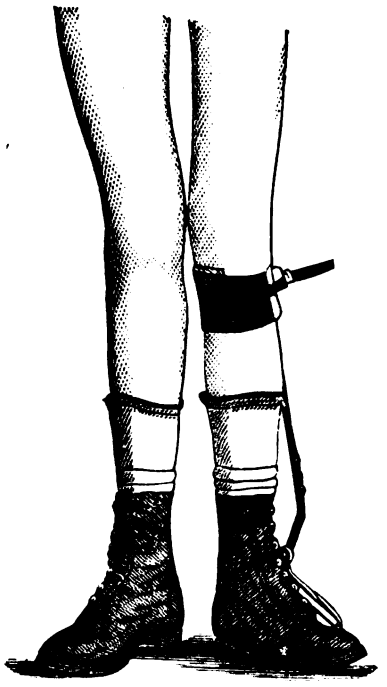

FIG. 15.

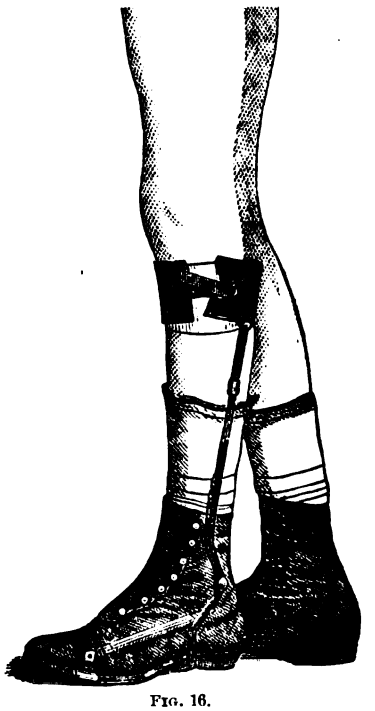

FIG. 16.

104 WEST THIRTY-FOURTH STREET, NEW YORK.

## ANEURISM OF THE HEART.*

By E. FLETCHER INGALS, M.D.,

LECTURER ON DISEASES OF THE CHEST AND PHYSICAL DIAGNOSIS, RUSH MEDICAL HOSPITAL; PROFESSOR OF DISEASES OF THE THROAT AND CHEST, WOMAN'S MEDICAL COLLEGE, ETC.

G. H. B——, aged forty-eight; married; formerly a sailor, now United States storekeeper.

This patient came to me about four weeks ago, complaining of dyspnœa and of pain in the chest. The pain has been constant for eight months, excepting when he is at rest and for a short time after rising. It is felt beneath the sternum and over the anterior portion of the right side of the chest. It is subject to frequent exacerbations. The dyspnœa occurs at irregular intervals, and usually lasts for several hours.

Upon an inquiry into this patient's hereditary history, I find that an uncle, on his mother's side, and an aunt, on his father's side, died of consumption. His mother died suddenly, at the age of fifty, while sitting in her chair, apparently of heart disease.

Eighteen years ago, while a sailor, the patient had what was termed "African fever," at which time he vomited blood freely. About eighteen months later, while to all physical appearance in good health, though at the time troubled with a severe cough, he had a very copious hæmoptysis. A few months later he was discharged from the Navy on account of pulmonary trouble, which was pronounced consumption. His health remained poor for several months; but since that time he has been able to attend to light work, and has been in fair health.

About nine years ago he had a very severe coughing-spell, which lasted all night, but which was promptly relieved by a single dose of medicine, and did not recur.

Five years ago he had his first severe choking-spell, attended with excruciating pain in the chest; this lasted four or five hours. Subsequently, he had similar attacks, though less severe, occurring at irregular intervals for several months.

Every winter for five years he has been troubled with pain under the sternum and in the right side, excepting when perfectly quiet, with frequent acute exacerbations of the pain. Occasionally he complains of pain or numbness in the left side, shoulder, and arm, extending to the elbow—like the pain of angina pectoris. As already stated, for eight months the pain and dyspnœa have been constant when the patient is not at rest. The pain, however, subsides in a few hours after he retires, and it does not recur until some time after he rises in the morning.

As you will observe, the general appearance of this patient is that of a man in good health. There is no capillary congestion and no turgescence or pulsation of the veins of the neck or upper part of the chest. The aspect of the chest is healthy, there being neither abnormal prominence nor depression, nor loss of movement of any of its parts. But I observe marked pulsation of the right subclavian artery, and I detect a pulsating spot in the third intercostal space of the right side, near the sternum.

The radial pulse is regular, and alike on both sides, presenting no peculiarity to the touch, excepting a slightly jerking impulse. The apex-beat of the heart is in its normal position, and it is regular and as forcible as natural.

The impulse in the third intercostal space is as forcible as that of the apex.

No abnormal sounds are found on percussion over the lungs, and the cardiac dulness proper is confined to its normal area; but an area of dulness, about two inches in diameter, with its centre in the third intercostal space, extends from the normal line of cardiac dulness into the right mammary region.

Upon auscultation over this pulsating point, I hear two blowing murmurs: the first, which is the longer and louder, occurring at the same instant as the systole of the ventricles; and the second, with the ventricular diastole. These sounds may be heard, though less distinctly, in the second intercostal space of the right side, at the edge of the sternum; but they are not heard above the clavicles. They are also heard at the apex of the left ventricle, but they become very indistinct when the stethoscope is carried over the right ventricle. They are not propagated to the left of the apex, and they are not heard on the posterior part of the chest.

There is a marked shock with the first murmur over the pulsating point, but no diastolic shock is perceptible to the ear or fingers, though a faint shock is indicated by the sphygmographic trace.

FIG. 1.—Site of Abnormal Pulsation in Right Mammary Region.

We have here a group of symptoms and signs which point to several affections of the circulatory system. These are: *Dilatation of the right auricle; lesion of the aortic valves, causing obstruction and regurgitation; aneurism of one of the branches of the pulmonary artery, or of the bronchial, intercostal, or internal mammary arteries; lesions of both the mitral and aortic valves; aneurism of the heart*, springing from the right or left ventricles, or possibly a *pouch-like aneurism of the aorta.*

The pain of which this patient complains is more like that experienced in aneurism of the aorta, than like the pain which sometimes attends valvular disease of the heart; but the murmurs are of the same quality as those which are generally heard in the latter affection.

This case presents some signs which cannot be explained by the rules which apply to the ordinary diseases of the circulatory organs; in a word, it is unique so far as common experience goes, therefore a diagnosis cannot be made unless an analysis of the signs enables us to exclude all but one of the affections just named.

*Dilatation of the right auricle.*—The abnormal area of dulness, with marked pulsation in the right mammary region, at once suggests to us dilatation of the right auricle, and the murmurs suggest regurgitation through the tricuspid valves. But if this were simply an hypertrophied and dilated right auricle, its forcible pulsations would cause regurgitation of blood into the descending vena cava, with consequent turgescence and visible pulsation of the jugulars, with lividity of the face and probably an œdematous condition of the neck and upper extremities. These signs are not present.

Again, in dilatation of the auricle, the impulse would be seen and felt before the apex-beat of the heart, but in this case it follows the apex-beat.

If there were regurgitation through the tricuspid valves, the same venous signs would be found, the dyspnœa would be greater than now; the action of

* Patient presented to the West Chicago Medical Society.

the heart would be feeble and irregular, and the endocardial murmurs would be louder over the right ventricle than over the left. As these signs are not present, dilatation of the auricle and tricuspid regurgitation may be excluded.

*Lesion of the aortic valves.*—Lesions of the aortic valves, causing obstruction and regurgitation, would give murmurs similar in quality to those heard in this case, but they would not cause the increased area of dulness at the right of the sternum below the third rib; and obstructive murmurs would be heard distinctly over the aorta and its main branches, therefore these lesions may be excluded.

*Aneurism of one of the branches of the pulmonary artery.*—Aneurisms of the pulmonary artery or its branches, are so extremely uncommon, that they need hardly to be considered in this connection.

In the few cases which have been recorded, the abnormal area of dulness has never been found in this locality, while venous congestion has been marked, and dyspnœa has been much more severe than in the case before us. This affection we may also exclude.

*Aneurisms of the bronchial arteries* are very rare, and I am not aware that any have been observed, excepting as the result of breaking down of lung tissue in phthisis. In these cases the aneurisms have been small and have been located at the apices of the lungs.

An aneurism of the bronchial artery of even half the size of this abnormal area of dulness would of necessity press upon the bronchus or surrounding lung so as to greatly interfere with the respiratory murmur on the corresponding side. Such is not the case here. Furthermore, murmurs in such an aneurism would not be distinctly conducted to the apex of the heart, while absent over the right ventricle. We may, then, positively exclude aneurism of a bronchial artery.

*Aneurism of an intercostal artery.*—Such an aneurism would cause marked prominence over the tumor, and it would not be likely to reach the size indicated by this dulness. If it caused *bruits* they would not be heard at the apex when inaudible over other portions of the heart. Therefore, this lesion is excluded.

*Lesions of the mitral and aortic valves.*—Double lesions of this kind cause systolic and diastolic murmurs, the first of which is nearly always distinct at the left of the apex, and the second at the lower portion of the sternum. In this case the murmurs are not heard in these localities, and, if they were, these lesions could not account for the abnormal pulsation and dulness at the right of the sternum. Therefore, this patient cannot be suffering from valvular disease of the heart alone.

*Aneurism of the aorta.*—We have now excluded all affections which could possibly give the signs presented in this case, excepting a pouch-like aneurism of the aorta, or an aneurism of the heart.

I can find no record of a pouch-like aneurism of the aorta presenting in this locality, and, if one existed here, I should expect its murmurs to be propagated above the third ribs, and to the carotid quite as distinctly as to the apex. It might also communicate to the surface a distinct diastolic shock. These signs are not present. The sphygmographic tracings taken from the radial pulse indicate forcible action of the heart by the high and perpendicular line of ascent, and aortic regurgitation by the sudden drop in the line of descent. They are slightly different on the right and left sides, the summit of the trace from the left side indicating that the arterial tension is there maintained longer than upon the right side; but in neither of these does the trace resemble that usually found when the radial pulse is affected by an aneurism of the aorta.

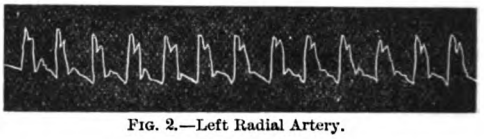

FIG. 2.—Left Radial Artery.

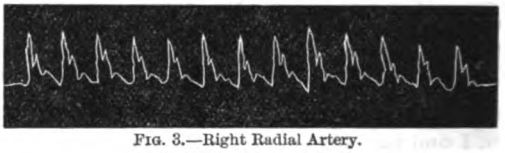

FIG. 3.—Right Radial Artery.

These facts seem to justify the exclusion of aortic aneurism, but as aneurisms of this vessel are comparatively frequent, and as they sometimes present in peculiar positions, we cannot be positive in the exclusion of this affection.

*Aneurism of the heart.*—Assuming that this is not a pouch-like aneurism of the aorta, then it must be an aneurism of the heart.

The position of the pulsation, and of the area of dulness, would make it at first appear that the right ventricle is the part involved, but the fact that the murmurs are heard distinctly over the left ventricle, and not over the right ventricle, together with the important clinical fact that an aneurism of the right side of the heart has never been found, will at once enable us to exclude a lesion of the right ventricle.

I am thus driven to the conclusion that this patient is suffering from an aneurism of the left ventricle, although recent writers state that an antemortem diagnosis of this lesion is impossible.

In the one hundred cases which have been recorded since Galeatti first described the affection in 1757, a positive diagnosis has never been made, and the true nature of the lesion has seldom been even suspected.

Hope suggests that we are justified in assuming that aneurism of the heart exists when areas of dulness and cardiac murmurs are present, which cannot be explained by the rules which apply to the diagnosis of pericardial or endocardial disease; but Laennec, Stokes, Gerhard, Walshe, Hayden, Flint, Balfour, Peacock, Fothergill, and others, pass the subject by in silence, or state that the diagnosis is impracticable.

Judging from the signs in this case, I suspect that the patient has an aneurism springing from the right side of the left ventricle, near the base of the heart, which involves the aortic orifice sufficiently to cause some regurgitation, as indicated by the sphygmographic trace. The peculiarities of the sphygmographic tracings may also be accounted for by a communication between the aneurism and the aorta (a lesion which has been found in some cases). This would explain not only the radial trace, but also the secondary curves in the trace over the aneurism; one of which would be caused by the contractions of the wall of the aneurism, and the other by contraction of the aorta.

The tumor seems to be pouch-like, and to extend beneath the right ventricle and auricle, so as to pulsate at the right of the sternum.

Aneurisms of the heart have been found most fre-

quently in males, and an analysis of the more recent records shows a tolerably equal distribution from early to advanced life.

In nearly all the recorded cases they seem to have resulted from inflammation of the walls of the heart, which has most frequently been caused by rheumatism.

In some cases direct injury or strain seems to have been the exciting cause, and it is stated that the opening of an abscess or hydatid cyst into the heart may be a cause.

In the present case the affection seems to be in some way connected with the pulmonary trouble which caused profuse hæmoptysis nearly seventeen years ago; but from the history and present signs we are unable to obtain the exact cause of that hæmoptysis, though it seems most likely to have resulted from hydatids or an abscess of the right lung.

An aneurism of the heart may occur at any part of the ventricle. Out of one hundred and five aneurisms occurring in one hundred and one cases, forty-one were found at the apex, thirty-two at the base, twenty-three at intermediate points, and nine in the septum.

These aneurisms are sometimes diffused, consisting of a simple bulging of the ventricular wall, and sometimes saccular. The latter vary from the size of a nut to that of the heart itself, and may communicate with the ventricle by either a large or small opening. At the autopsy these sacs have been found empty, or more or less filled with old or recent coagula or layers of fibrin.

Judging from external signs, the tumor in this case is distinctly saccular, and it is filled with blood which changes with each pulsation of the heart.

The walls of aneurisms of the ventricle are sometimes formed by the endocardium or the pericardium alone, and sometimes by both of these, but more commonly by these and the muscular walls of the ventricle, which have undergone fatty or fibroid degeneration; though, in some instances the muscular fibres have been found in a healthy condition.

Aneurism of the heart comes on insidiously, sometimes causing no symptoms whatever, so that no cardiac disease is suspected until sudden death occurs; but in most cases some of the ordinary symptoms of cardiac disease are present, and in a considerable number of cases the patients, besides complaining of dyspnœa, suffer from a peculiar sense of weight, with præcordial pain not unlike that attending aneurism of the aorta.

These latter symptoms have been present in the case before us, but the patient has not the ordinary symptoms of heart disease.

In the few cases which have been studied before death, the impulse of the heart has been strong or feeble about equally often, and in most of the cases endocardial murmurs have been present, due either to the aneurism or to coexisting valvular disease.

In many cases the affection has been acute and has progressed rapidly, terminating with rupture of the heart; but in a considerable number it has extended through many years.

In this patient the history and signs indicate a chronic disease. The regularity and force of the heart's pulsations, as well as the pulsations communicated to the fingers by the pulsations over the tumor, indicate that the walls of the heart, aside from the tumor, are not greatly weakened, and they also indicate considerable strength in the walls of the aneurism itself; therefore, though the prognosis is full of uncertainty, we hope that by care the patient may yet live for several years.

The treatment which has been suggested for aneurisms of this kind, is essentially the same as for valvular disease of the heart with dilatation.

In this case the physical signs of an aneurism and the character of the pain, which resembled that of aortic aneurisms, induced me to give the patient iodide of potassium. He has now taken the medicine four weeks; at first in doses of five grains four times a day; but latterly he has been taking forty grains daily.

As a result of this treatment the pain has steadily diminished, and now the patient reports that "It is not one-sixteenth part of what it was when he first came to me." In attempting to express more exactly the amount of improvement, he states that four weeks ago the pain was so severe he would not have given ten dollars for his life, but that now he is a thousand dollars better off.

## A CASE OF UTERINE MYOMA:

THIRTY-NINE INCHES IN CIRCUMFERENCE AND WEIGHING SEVENTEEN AND ONE-HALF POUNDS—REMOVED BY LAPAROTOMY.

BY PHILIP S. WALES, M.D.,

WASHINGTON, D. C.

MRS. P——, aged forty-seven years, resident of Baltimore County, Md.; married twelve years; offspring of a remarkably healthy and long-lived family; had menstruated regularly, the menopause occurring at forty-five; consulted me April last in regard to an enlargement of the abdomen. Her health, both mental and physical, was considerably impaired. She stated that about four years ago she had noticed a fulness in the lower part of the abdomen, which came on without pain or of any discernible cause, and had continued to increase up to the present moment. Now she has oppression in breathing and derangement of circulation from the encroachment of the growth upon the thorax. She cannot exercise or attend to her household duties from the protuberant and weighty abdomen.

I made a very careful examination, and found that there was a tumor extending from the pubis upward above the ensiform cartilage; it filled the pelvic and abdominal cavities fully. There was considerable effusion into the peritoneal sac. To the right of and somewhat below the umbilicus, a large fluctuating cyst was clearly definable; elsewhere the tumor was apparently solid. Adhesions were decided to be slight, if not altogether absent. The sound revealed the fact that the uterus was immovable and undoubtedly involved in the tumor. The depth of its cavity was three inches.

The patient was clamorous for relief, but I decided to send her home, and build up her general health until such time as she could bear the operation with increased chances of success. On the 5th of August I determined to operate, her general condition being as promising as could be expected by further delay. I was efficiently assisted by Drs. Hoehling and Dixon, of the Navy, Dr. Dyer, of Washington, and Dr. Maddox, of Rockville.

The operation was performed at 12.30 P.M., by making an incision in the median line five inches long in the usual manner, through which a quantity of yellowish serum and gelatinous coagula escaped.

The surface of the tumor was now clearly in view,

and inspection showed a fluctuating cyst, which was opened with a curved trocar, discharging about four ounces of pus, and a little deeper a cyst containing two or three ounces of serous fluid was evacuated. The tumor was everywhere else solid, as I introduced my hand into the pus-cavity and endeavored to break down its structure without avail. The pedicle was now sought with a view of encircling it with a ligature or an écraseur, so that the mass might be reduced and extracted piecemeal. The pelvis was so blocked up that this was impracticable. The incision was therefore enlarged, through which the entire tumor was finally extracted.

It was found to be connected with the fundus of the uterus by a large and vascular pedicle of ten centimetres in diameter; the pedicle was secured by clamp, and the mass beyond removed with the knife. The wound was closed with deep and superficial silver wire sutures after the peritoneal cavity had been thoroughly cleansed with a solution of carbolic acid.

The operation was performed under the usual antiseptic precautions, and occupied something over an hour. The patient reacted well under hypodermics of whiskey, and at 5 P.M. the temperature was 99.8°; pulse, 90; respiration, 32. Had a slight attack of vomiting; champagne, and ice at intervals.

August 6th, 3 A.M.—Temperature, 100.6°; pulse, 100; respirations, 32. 8 A.M.—Temperature, 100.4°; pulse, 100; respirations, 32. 12 M.—Temperature, 101°; pulse, 108; respirations, 30. 4 P.M.—Temperature, 101°; pulse, 110; respirations, 30. 8 P.M.—Temperature, 100.8°; pulse, 108; respirations, 36. Used catheter, and gave hypodermic of one-sixth of a grain of morphia.

August 7th, 3 A.M.—Borborygmi with occasional darting pains; has slept well since last evening. Temperature, 108.8°; pulse, 108; respirations, 18. 5.40 A.M.—Temperature, 100°; pulse, 104; respirations, 24. 9.20 A.M.—Temperature, 100°; pulse, 102. 9.30 A.M.—Temperature, 99.7°; respirations, 24. 1 P.M.—Temperature, 100.6°; pulse, 104; respirations, 28. Gave fifteen minims of tincture of opium. 4 P.M.—Temperature, 100.7°; pulse, 104; respirations, 28. Cheeks flushed; borborygmi, with occasional darting pains. Repeat tincture opium. 8 P.M.—Temperature, 100.7°; pulse, 102; respirations, 30. Flush gone from cheeks; borborygmi continue; complains of a little difficulty of respiration, which is accompanied by sighing at times. 10.45 P.M.—Hypodermic of one-sixth of a grain of morphia.

August 8th, 6 A.M.—Temperature, 101°; pulse, 102; respirations, 24. Slept well last night and feels comfortable this morning. 9.30 A.M.—Temperature, 100.4°; pulse, 100.3; respirations, 25. Is rather weaker than she has been, and complains of not feeling so well as she did up to about 8 A.M. Her expression of face is not so good as before, but she does not complain of pain. At 7 A.M. she had a little shooting pain in right iliac region. At 9.35 drew off urine and dressed wound antiseptically. At 10.30 A.M. gave tincture of opium, fifteen minims. Patient is stronger, bowels feel inclined to move. Continued the beef-tea, milk, iced champagne, according to circumstances. 2 P.M.—Complains of feeling very weak. Temperature, 100.8°; pulse, 103; respirations, 28. 4 P.M.—Temperature, 101°; pulse, 108; respirations, 28. Abdomen slightly disturbed, but not painful; had borborygmi at 4.15 P.M. Gave tincture of opii, fifteen minims. At 5.10 P.M. complains of pain in left side of abdomen; face flushed and hot. 8 P.M.—Temperature 100.8°; pulse, 108; respirations, 30. Has nausea and retching. 9 P.M.—Used catheter and arranged abdominal dressing. At 10 P.M., hypodermic of one-sixth of a grain of morphia.

August 9th, 6 A.M.—Temperature, 101.6°; pulse, 115; respirations, 28. Slept pretty well last night; had some nausea, but at present is free from that; peritonitis, 7.30 A.M. Used catheter and gave twenty-five minims tincture of opium. 10.30 A.M.—Cleaned out drainage-tube by injection of two per cent. solution of carbolic acid, and renewed the abdominal dressings. 10.40 A.M.—Temperature, 101.8°; pulse, 120; respirations, 28. Gave fifteen minims tincture of opium; complains of borborygmi. 1.30 P.M.—Temperature, 101.2°; pulse, 132; respirations, 32. Nausea; flushed face. At 4 P.M., considerable retching, with tympanites; fortified the abdominal wound with additional broad bands of adhesive plaster. 4.30 A.M.—Temperature, 100.6°; pulse, 134; respirations, 36. Is quite faint and weak, despite the supporting and stimulating means employed. 5 A.M.—Temperature, 102.2°; pulse, 140; respirations, 26. The pulse became more frequent until 9.50 A.M., when she expired. Pulse, 156; temperature, 101.8°; respirations, 41.

Inspection revealed extensive peritonitis.

The tumor removed presented the form of an oblate spheroid in shape, and weighed, three days after maceration in alcohol, eight kilogrammes, and measured, in its greater circumference, 100 centimetres. The surface is smooth, and marked by the large veins coursing over its surface, with the exception of the under side, where the pedicle was attached (ten centimetres in diameter). This side also exhibits a knob-like growth the size of an English walnut (five centimetres in diameter). On the anterior portion an abscess-cavity, irregular in outline, fifteen centimetres in diameter, the outer wall of which has a thickness of 6.3 millimetres.

Dr. Flint, of the Navy, was kind enough to make a careful microscopical examination of the tumor, and he reports that its histological characters are those of *myoma*. A large proportion of the substance of the tumor consists of non-striated muscular fibre. Sections of the hardened tissue present many of the appearances of spindle-celled sarcoma, except that the elements are less crowded and the tissue less dense; but when broken up by maceration in dilute nitric acid, the cells are found to have the outline and the elongated nucleus of smooth, muscular fibre. The tumor then would seem to have the same elementary characters as the wall of the uterus itself, and to be but an excessive and irregular development of its normal tissue.

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ALCOHOL IN TYPHOID FEVER.—Dr. M. S. Leslie, of Lexington, says that his experience with alcohol abundantly confirms that of Dr. Ingals, as expressed in the MEDICAL RECORD of the 23d ult. In the prostrate condition of typhoid patients, nothing else so well sustains the heart and nervous system as an ounce of whiskey, or its equivalent of some other form of alcohol, given about every two hours. Great nervous exhaustion in other diseases alike indicate it. In the insomnia of typhoid fever, I find alcohol internally, in conjunction with morphine hypodermically, the best means of procuring sustained refreshing sleep.

It is only as a medicine that I would recommend its use, either by precept or practice.

# FRANKLINIC OR STATIC ELECTRICITY:

## Its Absolute and Relative Value.

By A. D. ROCKWELL, A.M., M.D.,

ELECTRO-THERAPEUTIST TO THE NEW YORK STATE WOMAN'S HOSPITAL, ETC.

The *absolute* value of franklinic electricity as a therapeutic agent is, without question, very great. Its *relative* value cannot be estimated with the same readiness, since conclusions on this point render it necessary to compare its effects with those of dynamic electricity.

Any arguments, therefore, in the direction of showing that franklinic electricity has greater claims upon us as a remedy than has been generally believed, must of necessity be quite valueless, unless they are based upon a thorough use of the two forms of dynamic electricity; especially by the methods of general faradization and central galvanization. The difficulty of obtaining reliable and exact information in regard to this matter will undoubtedly be due to the fact that, in the future as in the past, clinical reports will be too often given by those who have had no systematized or adequate experience in the use of dynamic electricity.

Sedative and tonic effects of a very interesting character are undoubtedly obtained through franklinization; but these effects are equal neither in variety nor degree to those that follow the careful and thorough use of dynamic electricity by the methods mentioned above. None the less, however, do we hail the recent revival of this neglected department of electro-therapeutics, not only because in certain conditions it may possess some advantages, but because, through peculiar idiosyncracies, it is occasionally better borne than the other forms.

It must not be forgotten, however, that, as a rule, general faradization is far more agreeable than the treatment by sparks, however carefully given. Of all the approved methods of using electricity, franklinization has perhaps the advantage of requiring the least skill and experience in its administration, and the disadvantage of necessitating apparatus that is cumbersome, expensive, and not in the same degree reliable as the instruments for the generation of dynamic electricity.

A still further advantage lies in the fact that little if any disrobing is necessary, since the drawing of sparks and the general stimulation of the surface is accomplished through ordinary clothing. Another important reason for the use of franklinic electricity, and one which to my gratification I have thoroughly tested, is its occasional value in supplementing, and, if it may be so stated, of reinforcing the constitutional tonic effects or general faradization.

It is one of the familiar things in medicine, that a remedy which at first acts most effectually, may, after a time, cease to have the desired effect. If, now, we substitute a remedy of the same class, even though it be inferior, further benefit often follows, and upon returning to the original treatment it acts with renewed vigor. The same principle holds good in regard to the dynamic and franklinic forms of electricity.

Occasionally cases of nervous exhaustion, as well as other forms of disease, after improving up to a certain point under the influences of galvanism or faradism, hang fire, as it were; but, by submitting the patient to the action of franklinization, a new impulse seems to be given. In this way—one treatment supplementing and reinforcing the other—results are obtained far more satisfactory than could possibly follow the exclusive use of general or localized faradization—central galvanization or franklinization.

A word in regard to the Holtz machine, the best apparatus for the generation of franklinic electricity for medical purposes. This contrivance, although a great advance upon the old-fashioned cylinder machine, still proves inoperative, during most of the summer months at least, and frequently fails at a critical moment during the cold of winter.

Vigoroux has recently been experimenting in this direction in Paris, where it has been found that if the ordinary Holtz apparatus is covered with a glass case, in which is placed a quantity of chloride of lime and sulphuric acid, by which all moisture is absorbed, electricity can be generated with more or less readiness in all kinds of weather. The apparatus with this contrivance, as manufactured by J. & H. Berge, of this city, is represented in Fig. 1.

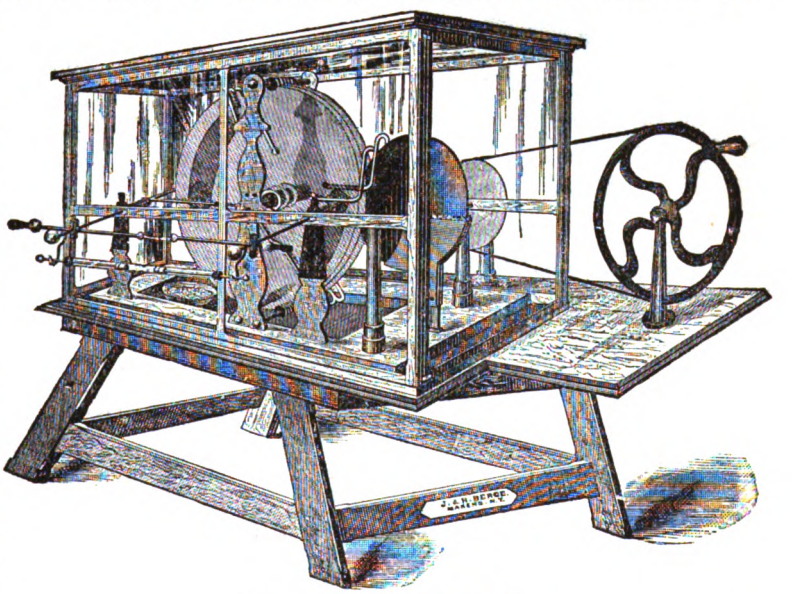

Fig. 1.—Apparatus for Franklinization.

Fig. 2 represents a patient in a state of insulation, and the operator in the act of drawing sparks from his body.

Recently, in an apparatus constructed by the same firm, this annoying inconsistency has been to a great degree removed by a simpler and much less expensive device. In the place of the ordinary comb-points, bunches of tinsel are substituted, the friction from which, added to the inductive properties of the machine, insures an almost perfect result.

Dr. Bartholow* describes a Holtz machine with a so-called Toepler modification, for which he claims

* Medical Record, May 7, 1881.

quite uniform results. Both the tinsel and Toepler attachment, however, although doing excellent work, fail occasionally, and those who desire a perfectly constant apparatus will do well to order the glass case cover, as illustrated in the cut. The plates should not be too small. The kind that answers

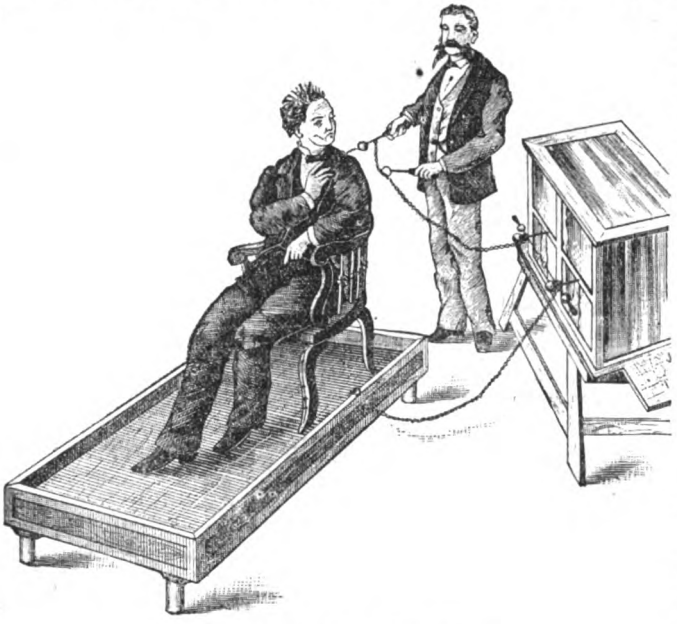

FIG. 2.—Electrization by Sparks.

every purpose is the *double* Holtz, consisting of four plates, two stationary and two revolving, the latter being about twenty inches in diameter. The electrodes consist mainly of brass balls of various sizes (mounted on glass handles held by the operator),

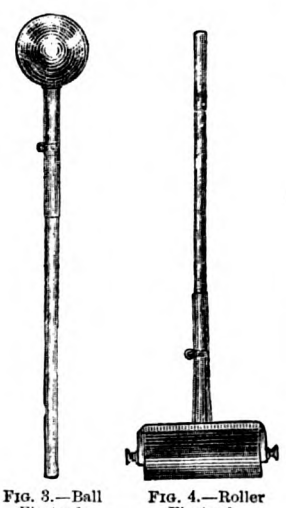

FIG. 3.—Ball Electrode.



FIG. 4.—Roller Electrode.

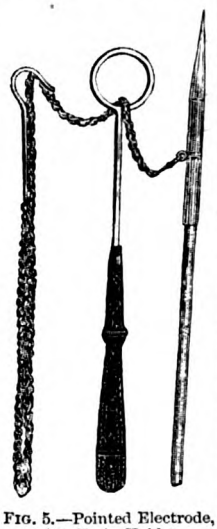

FIG. 5.—Pointed Electrode, with Chain Holder.

and connected by a brass chain with the ground, or, better still, with the nearest gas- or water-pipe.

Fig. 3 illustrates this form of electrode.

As a substitute for general faradization, although by no means so effective, and far less agreeable, the metallic roller—Fig. 4—may be used. It acts reflexly, and also directly excites the cutaneous nerves. When the roller is used upon the bare skin, the conduction is so perfect that no sensation is appreciated. It is only when the clothing intervenes, acting possibly as a sort of Leyden-jar, that the peculiar pricking sensation is observed. It is needless to say that, to obtain the best therapeutic effects of the roller, it should be applied over the clothing. The electric wind so called, following the use of the pointed electrode—Fig. 5—is due to the agitation of the air between it and the person treated. The discharge is silent and the effects agreeable and refreshing.

The static induction current,* which is obtained from a franklinic apparatus, has been suggested as a substitute for faradic electricity.

It is claimed for this current that it produces maximum muscular contractions with a minimum amount of pain, and that the response is quicker than that from the faradic current. As for the first claim it is difficult to see how it can be determined, since the faradic current from the single coil apparatus especially, need seldom, if ever, call forth pain in the production of muscular contractions.

As to the alleged greater quickness of response, I have not been able to discover that the new current has any advantage in this way.

The change in the apparatus for the production of this current is quickly and easily effected, and for the purposes of localized electrization, it is useful. For general faradization, however, it is quite unsuitable, and inferior even to the poorest forms of faradic batteries that are advertised so widely and sold in such great numbers. To determine the exact therapeutic status of franklinic electricity, we need still to experiment and observe.

A considerable experience, however, in its use would lead me to thus formulate what I believe to be the approximate truth in regard to this matter.

*First.*—As previously stated, tonic and sedative effects of a very interesting and positive nature, can be obtained from franklinization, either by insulation or sparks, but these effects are equal neither in variety nor degree, taking the cases as we find them, to those following the use of dynamic electricity, if used thoroughly and conscientiously by the methods of general faradization and central galvanization.

As supplementing these methods, however, when in protracted cases they seem to have lost their effect, we have abundant testimony of its value.

*Second.*—It has been long known that many temperaments and conditions of disease will bear faradization or galvanization readily, while shrinking from electrization from sparks. More recent experience, however, has convinced me that the reversed condition of affairs occasionally prevails.

At the present time I have under my care two female patients who are suffering from analogous affections. One regards general faradization as exceedingly agreeable and as benefited by it, but shrinks from the treatment by sparks, by the roller (general

* This current was first described by Dr. Morton in the New York MEDICAL RECORD, April 2, 1881, and by Dr. Bartholow in his Manual of Medical Electricity, recently published.

franklinization), and even by the milder method of insulation. The other much prefers the most positive treatment by franklinization.

*Third.*—In the enlarged joints of subacute and chronic rheumatism the treatment by sparks is frequently more efficacious than either faradization or galvanization. In acute articular rheumatism, however, the descending faradic current affords the greater relief.

*Fourth.*—In old contractures, and possibly in cutaneous anæsthesia, franklinization may possibly possess some advantages.

*Fifth.*—In electro-diagnosis franklinic electricity is of limited value; those quantitative and qualitative changes, which are so important as indicating structural degeneration, being produced only through the action of the two forms of dynamic electricity. In electro-surgery also it is manifestly of but little value.

*Sixth.*—Franklinic electricity will occasionally relieve pain where the dynamic fails, and in general is undoubtedly superior for this purpose to the faradic current alone; but, as compared with both the galvanic and faradic currents, no advantage has nor probably can be demonstrated. In the treatment of neuralgia I have found its chief value to lie in those cases which are associated with a hysterical condition, and in the so-called pseudo neuralgias, which are simply forms of pain occupying certain areas, and running *seemingly* in the direction of certain nerves. Such conditions are sometimes called hysterical hyperæsthesia, where it is observed that firm and prolonged pressure frequently affords marked relief, while pressure superficially applied increases the distress. It is in these cases *also* that the faradic current is most and the galvanic least effective.

*General suggestion.*—In summer, and sometimes in winter, the atmosphere will occasionally be in such a condition that the Holtz apparatus, with its tinsel or Toepler attachment, will work with comparative feebleness. Even when enclosed in a case it will, during some of the warm, damp days of summer, act with much less than its usual power. At these times the chain or bar from the instrument, instead of connecting directly with the insulating stool, should be held in the hands of the patient thus insulated. In this way a better action is secured. It should be noted also that there is great variation in susceptibility of the different parts of the body to any form of electrization. To administer general faradization properly, it is essential that the operator should submit himself repeatedly to its effects, so that, through personal experience, he may have knowledge of these varying degrees of susceptibility.

The same rule must be observed in the treatment by franklinization, otherwise the patient will be liable to suffer unnecessarily.

In the use of franklinic electricity it is especially necessary to be thus prepared, since it is quite impossible to graduate the effect of sparks drawn from the body as accurately as we regulate the action of current electricity.

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Traumatic Tetanus Successfully Treated with Very Large Doses of Calabar Bean.—A case of this kind is reported by Dr. J. C. Minor (New York *Medical Times*). In less than twenty-four hours, during the height of the disease, one hundred and four grains of the extract were given. This is the largest amount ever given—certainly by a homœopath, to which school Dr. Minor gives allegiance.

# Progress of Medical Science.

Hernia of the Ovary, simulating Strangulated Inguinal Hernia—Extirpation—Recovery.—The patient, a hysterical woman of forty-eight years of age, was born with a small, hard lump in the left inguinal region. The tumor had never been painful, nor did it ever enlarge during menstruation; it was irreducible. A truss had been worn constantly. A month before admission to the hospital the lump began to enlarge, and at the time of entrance she was suffering from gastro-intestinal catarrh as the result of the free administration of purgatives. The swelling itself was moderately painful, felt like a piece of omentum, and the superincumbent cutis was decidedly reddened. Under the impression that he was dealing with a congenital, irreducible and inflamed inguinal epiplocele, Raffo at first resorted to symptomatic treatment merely. Symptoms of strangulation suddenly manifested themselves, the previously present meteorism rapidly increased, and the pulse became small. Believing that a small loop of intestine was caught beneath the prolapsed omentum, Raffo proceeded at once to perform herniotomy. Meeting with a tensely distended sac, believed to be the hernial sac, an incision was made which gave vent to a quantity of sticky fluid. The cyst was found continuous with a solid, elongated body in the inguinal canal which proved to be the left ovary, and was excised after enlarging the incision and opening the peritoneum. The body of the uterus was felt almost in apposition to the internal inguinal opening. A drainage tube was inserted, Lister's dressing applied, and the symptoms of incarceration rapidly passed off. After the wound healed, the hysterical symptoms became much less marked.—*Lo Sperimentale*, 1881, No. 1; *Centralblatt für Chirurgie*, May 14, 1881.

The Value of Inhalations of Medicinal Agents.—Dr. J. Gottstein, of Breslau, has, in a practice of twenty years, made repeated trials with inhalations of medicated fluids in the treatment of affections of the respiratory organs, but has at length become convinced of their uselessness in most cases. The method is a favorite one with busy general practitioners, because of its apparent simplicity and easy applicability, but it is harmful in so far as it tends to displace more effective topical treatment with the sponge, pencil, syringe, and insufflator. The author admits the benefits apparently due to inhalations in croup, acute laryngitis, etc., but attributes the good results entirely to the solvent properties of the inhaled steam.

The only conditions in which he believes inhalations to be of value, are:

*First.*—Cases of acute laryngitis and bronchitis with scanty secretion, where patients are tormented by a sense of dryness in the throat, and consequent annoying desire to cough. These may be allayed by frequent inhalations of steam (either pure, or charged with chloride of sodium, chlorate of potash, or similar solvents).

*Second.*—Cases of laryngitis where the secretion has a tendency to become inspissated and form crusts.

*Third.*—In cases of laryngeal, tracheal, or bronchial disease where expectoration is rendered difficult by the tenacity of the secretion, or by any other mechanical causes.—*Betz's Memorabilien*, June 10, 1881.

# THE MEDICAL RECORD:

## A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., Editor.

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## SOCIAL SCIENCE THEMES.

It is only a truism to say that medical science is deeply interwoven with the interests of humanity. Aristotle said it some two thousand years ago, while if any one impugns such authority he can be referred to Descartes, who lived later, and put the matter more strongly still. It follows easily, then, that an association which makes a special study of society as a whole, should call to their aid those whose life is spent in studying the units.

At the recent meeting of the American Social Science Association at Saratoga, there were no better papers than those offered by physicians. This, we might add, however, is not extreme praise, for the association in question has not yet attained the highest rank and dignity as a scientific body. But the medical papers at least deserve careful attention.

In the Department of Health, Dr. Walter Channing, the Chairman, delivered a discourse upon "The Care of Insane Criminals and Inebriates." As regards the treatment of the insane, the point that he made was, that they needed moral treatment as well as physical. No system of psychology, he said, had as yet demonstrated the whole nature of insanity. It is a one-sided view which regards the lunatic as being like a man with a broken leg. He requires moral and social, as well as physical care. The old-fashioned method of putting the good and the bad, the rich and poor, the ignorant and cultured together, was a vicious one. Especial attention should be paid to the social relations of the insane. The need of separate asylums for insane criminals was very urgent. Such asylums had as yet been supplied in but few States; but there they had already done much good.

Some excellent suggestions were made in regard to the management of inebriates. The care and reformation of drunkards, the speaker thought, was one of the most vital questions of the day. In the inebriate we have a combination of the lunatic, the moral imbecile, and often of the criminal. There are more inebriates in the country than lunatics. They are more dangerous and injurious to the welfare of society. Though legally the inebriate is a responsible person, yet, so far as the care of himself is concerned, he is the most irresponsible of beings. But we have this advantage as regards him: We know the cause of his condition, and we know the method of cure, when cure is possible. Dr. Channing recommends the commitment of inebriates to reformatories by the courts. These reformatories should be unlike any institutions now in the country. The inmates should be graded according to behavior; their treatment should consist of work of various kinds; at least three years' residence should be required—and the speaker dwelt with particular emphasis upon the importance of this element of time.

Coming in opportunely with the foregoing paper, was one by Dr. Mary Putnam-Jacobi upon "The Moral Treatment of Insanity." Especially interesting were the author's remarks upon the education of children who have neuropathic tendencies; how, in other words, to prevent insanity by properly training those in whom its future development is to be feared. The three leading indications of an unstable mental condition are: An incapacity to grasp ideas, a weakness of the will, and a pronounced, though often unconscious, egotism. These traits are to be eradicated or toned down by a judicious watchfulness. The suggestions made by the author of the paper showed the sensible application of her extensive knowledge and acute observation. They could be well applied to the education of children who are not neuropathic.

A paper by Dr. Emily Pope, on "The Practice of Medicine by Women in the United States," introduced a less interesting topic. Dr. Pope, however, presented some statistics upon this subject which were evidently gathered with much care. They furnish an excellent supplement to similar figures read at the commencement of the Women's Medical College of Philadelphia, last spring. According to the author of the paper there are in the United States 470 women physicians, of whom 390 are engaged in active practice. These women are in twenty-six States, New York, Massachusetts, and Pennsylvania having the largest proportion. Of those heard from, 75 per cent. were single when they began the study, 19 per cent. were married, and 6 per cent. widows; 341 practise regular medicine, 13 homœopathy. 77 report that they supported themselves from the beginning of their practice, 34 in less than 1 year, 57 after the first year, 34 in 2 years, 14 in 3 years, 10 in various periods over 3 years; only 11 are left who can fairly be said to have practised over 2

years without supporting themselves; 269 are in general practice, 45 make a specialty of female diseases, and 4 of ophthalmology.

These statistics show a larger per cent. of women engaged in general practice than is usually supposed. Other investigations have led to the conclusion that nearly one-half follow some specialty, generally that of gynecology, obstetrics, or diseases of children. As regards health, it was stated that of 130 who have practised less than 5 years, 76 report health good, 51 health improved, 3 health not good.

On the whole, the figures lead to the conclusion that the practice of medicine has been successfully followed by these four hundred American women. It has furnished them a livelihood, and has neither impaired their health nor interfered markedly with their social relations. The great question, of course, as to their skill as practitioners, or their usefulness to society, cannot be settled by figures. That women can practise medicine with success, however, is established, and this fact gives her the right to do it. The great difficulty, admitted by Dr. Putnam-Jacobi in an admirable address upon the medical education of women, lies in the fact that women are partly inclined and partly compelled to fall into a special practice. But it is essential for good specialists that they first have a sound knowledge of all the different branches of medicine. This it is almost impossible for women to obtain at present, either in hospitals or in private practice.

In the department of education, the topic of "The Development of Infant Life" was brought up for discussion. This subject, which we referred to editorially some time ago, is now being investigated by the Secretary of the Educational Section. Hundreds of educated women, we are informed, are occupied in collecting facts upon this little known branch of psychology. The Secretary was not yet ready, however, to make any systematic report upon the matter. A letter from Mr. Charles Darwin was read, in which that eminent naturalist gave many useful suggestions toward carrying out the work.

The last day of the session was largely occupied with papers and discussions upon "Tenement-Houses, and the Moral and Physical Evils they Induce." The success of co-operative building associations in remedying this evil was referred to, but discussion showed that they had, as a rule, failed in other places than Philadelphia.

The President, in declaring the session finally closed, alluded to the fact that the attendance had been larger than at any previous year.

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### THE STATE BOARD OF HEALTH AND HUNTER'S POINT.

The persistence of the Hunter's Point stenches has raised an interesting question as to how much the State Board of Health can effect in the way of removing nuisances. This Board, in accordance with requests, made a thorough examination, not long ago, of the causes of the stenches coming from Hunter's Point. They found that the smells were produced by the dozen oil refineries which are situated on Newtown Creek. From most of these establishments the washings, containing sludge acid, are poured out into the creek. At low tide, the shores, piers, and stones are covered with the sludge tar and sludge acid, which give off the offensive odors so evident in New York.

The State Board of Health, therefore, passed a resolution, as they were authorized to do by law, requesting the Governor to "close at once all the oil refineries and other establishments on or near Newtown Creek that permit sludge acid, sludge tar, or any other offensive refuse to run into the creek or upon the neighboring grounds, or allow offensive odors to escape, until such time as, in the opinion of the committee, such improvements shall have been made in the factories as will in future prevent such offensive discharges and odors."

In response to this, the Governor issued a proclamation in due form, calling for an abatement of the nuisances in question.

The press has seconded most heartily the efforts of the State Board, but as yet the matter is at a standstill. No active steps to close the offensive manufactories have been taken, and it remains to be seen whether the Board of Health is to have an authority which is only nominal where the interests of profitable corporations are concerned. There is considerable confidence expressed by some of its members that it will ultimately succeed; and some help is likely to be afforded it by a society which has recently been organized "for the suppression of Hunter's Point nuisances." This society will devote its energies to sustaining the action of the Health Board, and securing the execution of the law under which that body was created.

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### NOTES ON THE PRESIDENT'S CASE.

The removal to Long Branch, and perhaps we should add the appointment of a day of prayer, and the reduction of the medical staff, seem to have produced a slightly favorable change in the President. The press reports show that five out of the seven days since last writing have been marked by an improvement in his condition.

The reduction of the medical staff was a wise move, indicating as it did no lack of confidence in the gentlemen who have been dismissed, but rather an improvement in the condition of the patient. It was a necessity to the physicians, as well as to the President, that there should be several in attendance at first. No one man could have endured the tremendous responsibility of the case or have

kept up under the merciless torrent of criticism that would have been poured upon him. And after all the patient was let off quite easily. In olden times the potentates of the earth believed in the efficacy of numbers, and Charles II. died *secundum artem*, after having been treated by sixteen of the most eminent medical men in the land.

One of the gentlemen discharged, Dr. Woodward, though without a peer in his department, is rather more famed for scientific knowledge than practical skill. Dr. Barnes also has not been known to the profession by any active work for some time.

We are obliged to confess to a feeling of thanksgiving, which is especially active and profound, that the President has shown the good sense to deliver himself from that—doubtless very estimable—female homœopathic physician, Mrs. Doctor Edson. She is reported to have been Mrs. Garfield's family doctress, and was retained as nurse in the present case presumably because the President did not wish to hurt the feelings of his wife. Mrs. Garfield's devotion has been great and her gruel unexceptionable, but she can hardly expect the mass of her loyal subjects to admire entirely a character which endorses female homœopathy.

The reports concerning the President show, as we write, some increase in strength upon that of a week ago. The temperature has been lower. On two days the afternoon bulletin recorded it as normal. The pulse has kept quite steadily at 100. The respiration rose on one day to 20, but for the rest of the time, has shown no elevation. There has been, however, a slight fever every day. This fever, the rapid pulse, and the great weakness of the patient appear to be the chief bad symptoms in the case.

The public was much alarmed on the 10th and 11th instants by an increase of fever and a threatened relapse. This brought out the hitherto unannounced fact that the patient had been coughing more or less for three weeks, and was suffering from a bronchial catarrh. It was also stated that a slight area of dulness had been detected at the lower part of the right lung. It was a question for some time whether this was not an evidence of hypostatic congestion, and, perhaps, a beginning of bronchopneumonia. It is the impression at date, however, that the dulness is due to the liver, and that the cough was caused by a catarrh. The record of the respiration and pulse certainly confirms such a view.

Favorable reports have been given in regard to the wound. The catheter passes in a shorter distance, and it is believed that healing from the bottom has really begun. This, together with the fact that the incisions into the parotid gland have healed, are most favorable signs, as indicating that the vital powers of the system are not at a low ebb.

The question of the position of the ball has been discoursed upon by Dr. Hamilton, whose usual granitic reticence is sometimes forced to yield to the importunities of the unspeakable reporter. He says:

"We think we have discovered the situation of the ball, but this discovery (if it is such) was made as far back as July 24th. We have never lost sight of the ball from that day to this; it lies under the psoas muscle in the right iliac fossa, where it can be distinctly felt as a hard substance. Pressure over this point is not painful.

The suppuration of the parotid gland resulted in a fistulous opening by which pus passed into the mouth. This, however, is nearly or entirely healed. In regard to the medical bulletins, there continues to be but one feeling, which is that they are incomplete and unsatisfactory. In none of them has the existence of the cough, the bronchitis, or the suspicious area over the right lung yet been announced. Nor do we learn by them anything exact as to the character of the wound. Both the general public and the medical profession have had to depend upon the admirable dispatches of Secretary Blaine for the facts upon which to base an opinion of the President's real condition.

It has not been revealed who is the author of these much-studied bulletins, but surely they could be made into better English, not quite so insanely optimistic, and not quite so uniformly obfuscated with unmeaning generalities.

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### THE AMERICAN SURGICAL SOCIETY.

This society held its first annual meeting at Coney Island during the past week. Owing partly to the fact that many leading surgeons had not yet returned from Europe, the attendance was not large. Still there were present representative surgeons from this city, Brooklyn, Philadelphia, and from the South and West. A number of excellent papers were read, while the discussions following them were carried on with much spirit.

The attempted assassination of the President, and his consequent long illness, has aroused a special interest in surgery, among the laity as well as medical men. Consequently the proceedings of the present meeting received much attention.

It is understood that one of the objects aimed at in creating this organization was to make more marked the distinction between surgery and general medicine; in other words to develop the former into more of a specialty. It was hoped, too, that by forming a national surgical society the prestige of a greater solidarity could be given. The publication of an annual volume of transactions is intended in the future, but none will be issued for the present year.

# International Medical Congress.

*Held in London, England, August 3 to 9, 1881.*

(Special Report for THE MEDICAL RECORD.)

## MEETINGS OF THE SECTIONS.

### SECTION ON OBSTETRICS.

#### TARNIER'S FORCEPS.

On the morning of the first working meeting of the Section, the discussion was opened by Professor Tarnier in an eloquent address on the forceps. He briefly traced the history of the perineal curve of the ordinary instrument, and objected to it for two reasons: 1st, traction could not be made in the axis of the pelvis, and might injure the pelvic walls; 2d, the force being applied too far from the centre of the fetal head, the instrument was turned into a lever, which might again injure the pelvis whenever a movement was made to one side or the other. Professor Tarnier exhibited his own forceps, together with the latest improvements made in it, and claimed that by it traction could be made in the axis of the pelvis, traction could be applied to the centre of the fetal head, that the head could move as freely when grasped by the forceps as it could in natural labor; that in this forceps the operator had an indication which pointed out the movements of the fetal head, and thus obtained a guide for the direction in which traction should be made.

Professor Lazarewitch, of Cracow, followed. He maintained that the only curve essential to the forceps was the head curve, the pelvic and perineal curves being not only unnecessary, but mischievous. Forceps without pelvic or perineal curves answer best the mechanical requirements favorable to the action of the instrument, for the perineal curve is superfluous, inasmuch as the perineum can be readily distended as far as the coccyx without injury, while the pelvic curve increases the resistance to the passage of the head, endangers the soft parts, and renders the power of making traction in the axis of the pelvis difficult, if not impossible. Moreover, the direction in which traction should be made is decided by the muscular sense.

The universal opinion of the Section, however, appeared to be against Professor Lazarewitch's views, and in favor of the pelvic curve of the forceps. The chief objections raised against Professor Tarnier's instrument were its complexity and the danger with which it threatened the soft parts at the floor of the pelvis, and the continuous pressure it exercised upon the fetal head. Its complex character was seen and pointed out at its first introduction, and this was doubtless one reason why it had met with so little favor in England. The danger with which it threatened the soft parts of the pelvic floor was forcibly expressed by Fordyce Barker, while Matthews Duncan drew attention to the danger to the fœtus from persistent pressure on its head. The latter, with true wisdom, pointed out that a scientifically perfectly constructed instrument was not necessarily better than a scientifically imperfect instrument which had been gradually improved by generations of practitioners. Prof. Tarnier's instrument was on its trial; it had been constructed on theoretical principles, and time and experience by many practitioners in all parts of the world would alone decide whether the issue of M. Tarnier's labor and ingenuity was better suited for use in difficult midwifery than the product of long experience.

In a paper on

#### INTERMITTENT CONTRACTIONS OF THE PREGNANT UTERUS

as a means of diagnosis, by Dr. Braxton Hicks, the value of these changes in the organ in elucidating the diagnosis of tumors of the abdomen was pointed out, and illustrated by cases.

Professor Simpson, of Edinburgh, read a paper on a

#### COMMON NOMENCLATURE IN OBSTETRICS.

After some discussion it was resolved that a committee be formed, consisting of one representative of the several nationalities represented in the Congress, to draw up a scheme of common nomenclature, to be considered at the Obstetric Section of the next International Medical Congress; the representative of each country to consult with a committee of his fellow-countrymen.

Dr. Budin then read an interesting paper on a Peculiar Arrangement of the Membranes in Twin Pregnancy.

Dr. Battey next read a paper on

#### OÖPHORECTOMY,

in which he discussed, first of all, nomenclature; then the questions, "Is there a field for the operation, the indications for it, the method of performing it, and the proximate and ultimate results?" It appeared that there was a field for the operation; but, according to Dr. Battey's idea, a somewhat narrow one, for he had performed the operation sixteen times only during ten years; while, as shown by a table presented to the meeting, it had been done at Birmingham, by Mr. Tait, sixty-five times since May, 1879—that is, in a period of two years and three months. According to Dr. Battey, who presented a table of over two hundred cases with results, the mortality is eighteen per cent., and the cures in completed operations seventy-two per cent., in incomplete operations twenty-six per cent. Dr. Battey was followed by Dr. Savage, whose paper contained nothing of importance that has not been already published.

The discussion which followed the reading of these papers was the chief and most interesting of all those which took place in the Section. Mr. Knowsley Thornton called attention to the large proportion (eight per cent.) of cases in which the operation could not be completed, and concluded by stating that what was required before pronouncing the operation to be justifiable, was a clean mortality bill and a far more perfect record of the ultimate results than any yet given.

Dr. Martin, of Berlin, thought the operation should be done but very rarely. He deprecated haste in publishing cases, because a long time must elapse before the ultimate results could become known. For this reason he had not published his results. He had performed it fourteen times. Mr. Spencer Wells saw no cases demanding the operation. Dr. Goodell, of Philadelphia, had always followed the vaginal method in the operation, but would discard it in future, and adopt the abdominal. He suggested that it should be a part of the State Medicine of the future that the ovaries of insane women should be removed.

Dr. Matthews Duncan was a decided opponent of oöphorectomy; he regarded it as an operation which was in the crudest experimental stage. He had been for many years an observer of women's diseases, and

recently he had often been consulted as to oöphorectomy, and had sanctioned it in one case only, for he did not see the cases that required it. He regarded the sufferings of neurotic women as greatly exaggerated; he had never seen death follow them. He further pointed out, with reference to oöphorectomy for bleeding uterine fibromata, that a series of cases had been laid before the meeting—twenty-six cases, with five deaths. He knew of no similarly bad results under any other kind of treatment, and was sure that such disasters were unequalled in the history of the subject.

After the discussion on oöphorectomy, a group of five papers on subjects connected with displacements of the uterus were read. In a paper entitled "The Exciting Cause of Hysteria and Hystero-Epilepsy," Dr. Graily Hewitt traced such attacks to reflex irritation arising from compression of the uterine tissues from flexion of the uterus. Dr. Paul F. Mundé, of New York, discoursed on the "Curability of Uterine Displacements," and concluded that in cases of old-standing, permanent cure was extremely rare. Dr. Edis called attention to the many reflex disorders arising from uterine disease. Dr. Verrier, of Paris, described a somewhat formidable machine for redressing the displaced uterus, and Dr. Beverley Cole, of San Francisco, discussed the "Mechanical Treatment of Some of the Displacements and Diseases of the Uterus."

On the following morning the sitting opened with a paper by Professor Freund, of Strasburg, on

TOTAL EXTIRPATION OF THE UTERUS.

In the author's absence an abstract was read by one of the secretaries, Dr. John Williams. In this abstract Professor Freund unfortunately gave no statistics. Indeed, he confined himself to general statements and to a brief discussion of the two methods of removing the whole uterus—viz., the abdominal (Freund's) and the vaginal. He seemed to regard his method as a stage in the progress of the operation of total extirpation, and appeared to think that the vaginal method was to be preferred, especially in cases in which the uterus was small and the vagina capacious. He concluded that the operation might be undertaken as a not very dangerous one in the early stages of carcinoma and sarcoma, in which it gave a promise of radical cure.

A paper by Professor Corradi was read by Dr. Bantock, in which the author advocated total removal of the uterus by a combined vaginal and abdominal method. Dr. Martin, of Berlin, said that but few patients could be subjected to this operation. If the glands or broad ligaments were affected, the operation should not be done. He had removed the uterus six times after Freund's plan, and all the patients had died. He had removed it in seventeen cases by the vaginal method, and found no great difficulty in arresting the bleeding. The question of recurrence could only be settled after the lapse of sufficient time.

Professor Czerny, of Heidelberg, in consequence of the bad results he had met with by Freund's method, had adopted the vaginal operation, and had removed the uterus in this way seven times; four of the cases recovered, but recurrence had taken place in several. Professor Hennig, of Leipsic, advocated recourse to the operation, though the cases permanently cured be very few. Mr. Spencer Wells had never seen a case in which so serious an operation appeared justifiable. The cases were too far advanced, or were such as permitted the removing of the cancerous tissues by scraping or cutting, and the application of caustics, etc. Dr. Marion Sims also described his method, now well known, of treating cancer of the uterus.

Professor Slawjanski, of St. Petersburg, read an interesting paper on

A POINT IN THE DIAGNOSIS OF OVARIAN TUMORS,

in which he indicated a symptom which appeared to be diagnostic of the side on which the tumor grew. This sign was an impairment of sensibility in the inguinal triangle on the side of the affected ovary. He had examined five cases, and this was present in each case, and the accuracy of the diagnosis was verified by the subsequent operation.

Dr. Martin, of Berlin, read a paper, with illustrative cases, in which he advocated a new method of treating extra-uterine pregnancy, or rather a new method of treating the placenta and the sac in operating for extra-uterine pregnancy. He proposed to ligature, and had ligatured, the base of the placenta, and removed as much of the sac as possible, closing the remaining portion from the abdominal cavity, having previously drained it into the vagina. He stated that when the placenta was attached to the pelvic wall it could be ligatured as well as when attached to the uterus, and that in this way the placenta could be removed, and the danger of hemorrhage and of infection, in great part, if not entirely, obviated.

The next subject brought before the Section was the

SURGERY OF THE CERVIX AND VAGINA,

in two papers: one by Dr. Pallen, of New York, entitled "The Reparative Surgery of the Cervix and Vagina;" the other by Dr. J. H. Bennet, entitled "Lacerations of the Cervix Uteri: their Causes and Treatment." In the first paper a large number of questions were discussed, including the congenital deformities of the vagina and cervix, as well as the acquired conditions requiring plastic operation. Dr. Bennet found in inflammation the cause of lacerations of the cervix, and their treatment was the treatment of the inflammatory condition. The great subject of difference, however, between these two authors was the operation of Emmet for sewing the lacerated cervix, or trachelorrhaphy. Dr. Playfair discussed the question very fairly and fully, and explained how he had been prejudiced against the operation, and how he had come to change his views respecting it. He had done it in several cases, and found he had been enabled thus to cure some cases of long-standing illness. Dr. Goodell, Dr. Marcey, and others, paid a just tribute to Dr. Henry Bennet for the work he had done as a pioneer in the study of gynecology in England, but they could not agree with him in his estimate of Emmet's operation. Dr. Goodell thought it should be done in cases of lacerated cervix, even when there were no symptoms, with a view to prevent the development of epithelioma.

On Monday the work of the Section began with an address by Dr. Barnes, on the

TREATMENT OF PUERPERAL HEMORRHAGE.

Dr. Barnes entered somewhat fully into the conditions which predisposed to hemorrhage, and the physiological conditions which opposed it. This

part of his subject occupied so much of the time that he had but little to devote to the main subject of his paper. To guide in the selection of remedies, hemorrhage was divided into three degrees: 1st, the diastaltic function is maintained intact, but its action is disordered; 2d, the diastaltic force is markedly diminished; 3d, the diastaltic force is suspended. The usual means employed successfully in the first and second degrees were enumerated; they failed in the third. When muscular contraction failed, an equivalent might be found in styptics —iodine or iron. Iodine often failed; in iron we should put our trust. The author concluded that uterine injections of solutions of perchloride of iron were capable of averting bleeding when all other means had failed.

Dr. Moore Madden followed with a paper in which he discussed the prevention as well as the treatment of post-partum hemorrhage. He advocated a course of iron before labor, and the usual means, together with styptic injections, if necessary, after labor. Upon this question, especially the value of intra-uterine injection of solution of perchloride of iron, there was great difference of opinion. Some, as Matthews Duncan and Cole, rejected it in toto, trusting altogether to the retraction of the uterus, while others advocated its employment as a last resource when all other means had failed. The result of the discussion appeared to be that the cases which demand its use are extremely rare. The President dwelt upon the means of preventing hemorrhage. He gave a stimulant immediately the child was born. Chloroform predisposed to hemorrhage. He had in one case used injection of perchloride of iron with success.

An interesting and valuable paper upon an uncommon condition was read by Dr. Roper, viz., "Trismus and Tetany of the Uterus." He related seven cases—three of Smellie's and four occurring in his own practice. The treatment of the condition was extremely difficult, and no plan yet suggested was satisfactory.

After the exhibition of some instruments, a paper on "Delivery by Electricity" was read by Dr. Apostoli, of Paris.

Professor Spiegelberg had undertaken to open a discussion on

ANTISEPTICS IN MIDWIFERY.

Owing to illness, however, he was not able to be present, and his paper was read in abstract by one of the secretaries, Dr. Galabin. Having referred to the development of antiseptic views in surgery, he said that during labor the strictest cleanliness and antisepsis on the part of both mother and attendants should be observed; disinfection of the genital tract by frequent irrigation with antiseptics should be secured. Antisepsis after infection had taken place was not of much avail. It was only directly useful in processes of decomposition before the uterine parenchyma had become affected.

He was followed by Professor Winckel, of Dresden, who gave a report of the result of the introduction of antiseptic rules to the midwives in the kingdom of Saxony during the past twelve months.

After the reading of a paper by Dr. Halbertsma, of Utrecht, entitled "Puerperal Eclampsia is in most Cases the Consequence of Pressure on the Ureters," and one entitled a "Comparison between Embryotomy and the Cæsarean Section," by Dr. Eustache, of Lille, the last sitting of the Section closed.

## SECTION ON DISEASES OF CHILDREN.

THE TREATMENT OF SPINAL CURVATURE BY SAYRE'S METHOD.

The discussion of this important topic occupied the Section for two sittings. With the exception of Mr. Henry Baker and Mr. Reeves, there was a general concensus of opinion in support of Dr. Sayre. Mr. Henry Baker's paper was a *rechauffé* of the old views on the subject of extension, to the effect that its employment in the acute stage of spinal caries was dangerous, and in the late stage useless. Mr. Reeves referred to two cases of paraplegia and one of wryneck which had occurred after suspension, and held that the lengthening obtained was only transient. But it may be questioned whether either of these surgeons could bring forward any series of cases treated by old methods with results in the least comparable with those obtained by Dr. Sayre.

With respect to details of treatment, Dr. Oxley, of Liverpool, mentioned an ingenious device for renewing the singlet under the plaster corset. At the first application of the corset he used two singlets instead of one, and at intervals of a week or longer removed the inner one, by withdrawing it over the child's head, having previously tacked to its lower edge a clean singlet.

Dr. Oxley frankly admitted that in his early experiences he had sometimes over-extended. With some deference, he objected to Dr. Sayre's early demonstration of the difference in the shape of the curve before and after the extension, as giving rise to an erroneous view of the object to be sought. Dr. Oxley contended that the real object of the treatment was to take off the weight of the column from the diseased vertebræ, not to straighten the deformity; although, as a matter of fact, the spinal column was straightened as a whole, for the patient, instead of bending forward, and leaning his hands on his knees, or on some neighboring object, had his whole body above the diseased part supported and fixed.

Dr. Sayre, in a very vigorous speech, insisted with much emphasis on the danger of over-extension. He strongly condemned the suggestion of so distinguished a surgeon as Langenbeck, that the suspension should be preceded by anæsthesia. The limit of justifiable extension he had found again and again to be attained when the child showed signs of relief from pain after muscular spasm had been overcome. Dr. Sayre disavowed any desire to straighten the "boss" of the angular curvature, but he insisted that, even with the most careful maintenance of the horizontal position, inflammatory disease of a joint was sure to be accompanied by reflex contraction of muscles. This contraction was overcome by the suspension. Dr. Sayre gave some interesting cases of the successful application of his method to old people, the subjects of spinal caries.

The treatment of lateral curvature by Sayre's method was not fully entered upon, but Mr. Bernard Roth deprecated its use, except in extreme cases. Dr. Sayre regarded it merely as supplementary to the more important measures of massage and careful exercise of the weakened trunk and neck muscles. Amongst useful improvements for persons the subjects of lateral curvature, Dr. Sayre spoke of the homely one of making them walk with a book on the top of the head. Mr. Holmes in his summary of the use of Sayre's method in spinal caries, maintained that there were still lacunæ in our experience of the treatment in regard to the question as to

whether and how far symptoms of decided spinal irritation or inflammation had to be taken as contra-indicating it.

The discussion on the

PATHOLOGY AND TREATMENT OF GENU VALGUM,

which also occupied two sittings of the Section, brought out sufficient divergence of opinion to sustain the interest even of the medical part of the audience. As to the cause of the deformity, Mr. Lucas claimed that in almost every case it was the outcome of rickets, but this was by no means conceded either by the Vice-President or by Dr. Little, who showed that many other causes might give rise to it. Dr. Macewen held that in regard to the anatomy of the deformity in the typical cases, there was a twisting of the lower third of the femur and an actual intrinsic lengthening of the internal condyle, and that in about one-third of the cases there was a slight affection of the tibia likewise. As to the shape of the foot, Mr. Brodhurst held that it was flat, and that this indeed preceded the knock-knee; relaxed ligaments being, with him, the primary factor. Dr. Macewen strongly maintained that he always found the foot curved and arched on the inner side, and Dr. Little's explanation was that originally the foot was flat in these cases, but that when the patient with genu valgum tried to walk he turned the big toe inward as a compensating measure.

With regard to osteotomy, Dr. Ogston's operation, owing to the absence of its author, was but little referred to; but Dr. Macewen's super-condyloid method was well discussed, and some remarkable results set forth in support of it. In reference to age, Mr. Macewen declined to give any limit, but contended that the condition of the bones should be regarded as the true test; if there were ramollissement he would not perform the operation, whatever the age of the patient, believing that splints would effect what was required. As a matter of fact, eight years was the age of the youngest patient on whom he had operated, and he strongly deprecated the performance of osteotomy on young children. He had operated on 600 limbs, and of the three deaths in his practice not one had been due to the operation. Six only had suppurated. It was contended that the risk was not greater numerically than that of tenotomy. As to power of walking after the operation, Dr. Macewen referred to two recent cases, one a man aged eighteen, who, when admitted, had an interval of eighteen inches between his malleoli, and was unable to walk, except with great pain, but who six months after operation walked six miles daily with comfort, besides doing arduous work. The other patient who, when admitted, had an interval of fifteen inches between his malleoli, had, four months after operation, walked 100 miles in four days.

Dr. Little claimed that the cure for ordinary cases of genu valgum was to keep the knee extended, but he pointed out also that extreme flexion would succeed, and made the homely and valuable suggestion that amongst the poor a boy afflicted with this deformity should be apprenticed to a tailor, on account of the posture usual in that occupation. In the severe cases Dr. Little gave in his adhesion to Dr. Macewen's method of osteotomy. The *rationale* of the operation depended on the formation of a wedge of callus, succeeded by a mass of bone in the gap made by the chisel above the external condyle. The result of the formation of this new wedge of bone was that the external condyle was brought downward, and the interval which previously existed between it and the tibia was diminished.

Mr. Brodhurst advocated the mechanical treatment of the deformity, with the addition, in severe cases, of tenotomy of the external lateral ligament and of the biceps femoris. He made a vigorous onslaught on osteotomy as an operation unnecessary, ineffectual, and dangerous. Mr. Barker drew attention, however, to the fact that none of the dire results ascribed to osteotomy had followed upon Dr. Macewen's method, and quoted a case which had come under his own observation of a useless limb which had resulted from tenotomy of the external lateral ligament, performed for the relief of genu valgum.

The veteran French surgeon, M. Guérin, insisted on the classification of cases under two categories: (1) those where the deformity was due to muscular contraction, and (2) those where the relations of the joint were altered. In the 300 cases which had come under his observation he had never found osteotomy necessary. M. Fochier advocated the violent method known as *redressement brusque*, but this found no favor with any other speaker.

In summing up the discussion, Mr. Holmes obtained the hearty concurrence of the Section to his dictum, that if proper care and attention were given in early life, operative interference would never be required in these cases. He referred to the remarkable divergence of opinion as to treatment, in that M. Guérin, with an experience of half a century, should not have seen a single case where osteotomy seemed indicated; whilst Dr. Macewen, in a comparatively short period, had considered the operation desirable in no less than 600 limbs. Despite Dr. Macewen's hitherto excellent results, Mr. Holmes could not regard the artificial production of what was practically a compound fracture of the lower end of the femur as a procedure free from risk. He felt bound, however, to acknowledge the efficiency of the method, and that Dr. Macewen had made a distinct advance in surgery.

On the

SURGICAL TREATMENT OF EMPYEMA

little that was really novel was added to our knowledge.

Dr. Gerhardt insisted on the possibility of spontaneous cure of small empyemas by absorption, though he admitted that it was an extremly rare event. He drew attention also to the occasional cure by expectoration through the lung without the occurrence of pneumothorax.

The President and Dr. Ranke, of Munich, agreed in considering expectoration through the bronchi as a rarer event in children than in adults. Simple aspiration, on the testimony of several speakers, was claimed to be efficient in a certain number of cases. If this measure should be found ineffectual, there was a general consensus of opinion that incision and free drainage, with antiseptic precautions, should be adopted.

SCROFULOUS JOINT INFLAMMATIONS.

Prof. Hueter defined scrofulous joint inflammations as those in which the formation of masses of granulation tissue precedes suppuration, whilst in simple inflammation suppuration precedes the formation of granulation tissue.

He recommends the early injection by a Pravaz syringe of a three to five per cent. solution of carbolic acid into the incipient granulation tissue,

whether it be situated in the synovial membrane or in the medulla of bone. If this does not prove satisfactory, he recommends early excision. It was pointed out by Mr. Morgan that in the hands of English surgeons complete rest and fixation of the scrofulous joint had been followed by a considerable amount of success; that the treatment of diseased synovial membrane by carbolic acid had not borne the fruit which had been expected of it; and that excision of joints, with the exception of the elbow, had been repeatedly disappointing. Mr. Holmes also insisted that cases of joint disease, which everybody would agree to call scrofulous, had unquestionably recovered with rest, drainage, etc., and that the rule that if the injection of carbolic acid was not followed by improvement, excision should be adopted, was so absolute as to require much evidence to enforce its acceptance by English surgeons. Professor Hueter, in reply to the first observation, admitted that certain scrofulous inflammations of joints had subsided when at rest, but contended that they were cured by time, and not by rest. Dr. Sayre admitted that rest at the earliest time possible might effect a cure, but he objected to rest in bed in a hospital. He thought that only the inflamed joint should be at rest, that enough extension should be employed to take away pressure from the inflamed surface, and that as far as could be the investing tissues of capsule and the like should be exercised so as to keep up their nutrition.

The subject of

SURGICAL SCARLET FEVER

was well set forth in the paper with which Mr. Marsh introduced its discussion. The experience at the Children's Hospital, Great Ormond street, was quoted to show that whilst in the old hospital, where cases of scarlet fever were treated under the same roof as surgical cases, surgical scarlet fever occurred pretty often; in the new hospital, where the fever cases were treated under a separate roof, this complication was extremely rare. In regard to the entrance of the poison, Mr. Marsh did not favor the view that it was through the wound, on account of the latter remaining healthy. He was inclined rather to believe in the latency of the poison in the patient, and that in some sense it was precipitated by the operation or by the nervous depression associated therewith.

Dr. Goodhart stated that not only cases of operation wounds and of surgical disease, but even occasionally of phthisis, were liable to be attacked with this abrupt form of scarlet fever, and pointed out that the one thing in common was the presence of an inflammatory soil on which it might be assumed the germs of an acute specific poison could readily take root. That the surgical scarlet fever conferred protection from the ordinary form of the disease there seemed to be no doubt; but there was one link in the chain which it was desirable should be fitted in if the material was forthcoming—viz., were there any cases of ordinary scarlet fever capable of being imparted to others by a desquamating surgical scarlatina?

The discussion on

RÖTHELN

elicited a fairly concurrent account of the ordinary type of this mild but definite exanthem. It was, however, clearly demonstrated from Dr. Cheadle's important communication that occasionally this disease can assume a severe or malignant form. Dr. Cheadle related examples in which there was recurrent vomiting, severe earache, and laryngeal obstruction, so intense in some cases as to require tracheotomy. That these severe cases were true rötheln, and not measles, as at first believed, was proved by their breeding undoubted rötheln of the mild uncomplicated type in persons exposed to their infection.

On the

RELATIONS OF CHOREA AND RHEUMATISM

there was considerable disparity in the numerical results obtained respectively by Dr. Stephen Mackenzie and Dr. Octavius Sturges. In analyzing one hundred and seventy-two cases admitted into the London Hospital during six years, Dr. Mackenzie had found that there was some cardiac abnormality in more than half the cases; that in more than eighty per cent. the heart-lesion persisted; and that there had been pre-existent rheumatism in nearly fifty per cent. Dr. Sturges found that of one hundred and twenty-one cases under his care at the Highgate branch of the Children's Hospital, ninety-seven were free from any history of rheumatic manifestation. He strongly maintained the functional nature of chorea, and its tendency to spontaneous recovery independently of any kind of medicinal treatment.

Dr. Byers, of Belfast, pointed out that there was considerable evidence to show that rheumatic endocarditis was the connecting link (the chorea being due to emboli), but he held that the embolic theory would not explain all the cases, and quoted examples where there was no rheumatic history and no murmur. In order to include both rheumatic and non-rheumatic cases, it would seem necessary to refer the primary fault to some disturbance of the nervous system, and this was not inconsistent with the view now held by many, that rheumatism is itself a disease of the nervous system.

Dr. Ranke, of Munich, thought the geographical distribution of disease of great importance. In regard to chorea he thought its relative frequency must vary considerably in different districts. He found from his case-book that since 1867, out of forty thousand seven hundred and twenty-three children treated by him at the University Dispensary at Munich, only nineteen cases of chorea had been treated. Of these three had presented a systolic murmur, in all the others the heart-sounds had been found normal. There was only one child in whom a previous attack of acute rheumatism had occurred. Of the nineteen cases the chorea in two had followed upon fright; in all the rest no immediate cause could be discovered.

Drs. Barlow and Warner read a joint paper on the occurrence of

SUBCUTANEOUS NODULES IN CHILDREN

the subjects of chorea and rheumatism. The paper was an analysis of twenty-seven cases which had come under their observation. The nodules described varied in size from that of a mustard seed to that of a bitter almond. They were strictly subcutaneous, being attached to tendons or the deep fascia, especially near joints. In minute structure they consisted of connective-tissue cells, young fibrous tissue and vessels, and appeared either in one or several crops. They usually subsided within two months, but might reappear. They were painless. Their evolution was unattended by pyrexia. The importance of these nodules did not depend on

anything intrinsic, but on their clinical associations. In all the cases there was heart disease, often grave and progressive in character. There was history of rheumatism in about two-thirds of the cases, and of erythema marginatum in more than one-fourth of them. Twelve out of twenty-seven cases had chorea.

It was submitted that the occurrence of these nodules might be taken as indicative of rheumatism in children; that when found associated with heart disease and chorea, although no history of rheumatic fever could be obtained, nevertheless their presence gave a presumption that the chorea was rheumatic; that in nature they were probably homologous with the inflammatory exudation which formed the basis of a vegetation on a cardiac valve.

## SECTION ON OPHTHALMOLOGY.

After the reading of the President's address, an abstract of which has been published in a previous issue, on the motion of Mr. Critchett, a committee was appointed by the section to deliberate concerning the tests of vision and color sense most applicable to persons employed in working or observing signals by land and sea, where the lives of others are involved, and to report thereon to the council. This committee comprises many of the most eminent ophthalmic surgeons from the various countries represented at the Congress.

The discussion on the

ANTISEPTIC METHOD IN OCULAR SURGERY

was opened by Professor Horner, of Zürich. Taking the statistics given by Noyes and Geissler of the results of cataract extraction, as showing a loss of 10.1 per cent. by the flap and 4.8 per cent. by the linear operation, Professor Horner alleged that by strict antiseptics, such as the prophylactic disinfection of the patient, operator, and instruments, etc., and by antiseptic dressings after the operation, we may hope to reduce the losses to 1.5 per cent.

Professor Reymond followed in the same direction as Professor Horner, and insisted that, in order to carry out Listerism in cataract-extraction, the dressing should extend far beyond the orbital region, and should be very accurately applied. In three hundred and fifty extractions since January 1, 1880, Professor Reymond had had primary sloughing of the cornea in seven patients, of whom four had taken off the bandages themselves before the third day.

In connection with the same subject, Professor Th. Leber, of Göttingen, read a paper on the

ACTION OF FOREIGN BODIES INTRODUCED INTO THE EYE,

in which he maintained that the purulent inflammation which supervened on the introduction of metallic fragments into the eye was always due to the action of germs which had entered through the wound. Purulent inflammation might, however, be set up independently of the action of germs by the introduction into the interior of the eye of certain chemical substances, such as arsenic, binoxide of mercury, etc. The extracts of septic liquids in which the germs had been killed by boiling set up transient inflammation when injected into the anterior chamber or into the corneal tissue.

Various conflicting opinions were expressed in the discussion following these three papers. Dr. Knapp, of New York, maintained that the inflammation that followed cataract-extraction was due more to injury of the cornea than to infection. On the same day papers were read by Dr. Landolt, of Paris, on "Motor Affections of the Eyes," and by Dr. Abadie, of Paris, on "Partial Tenotomy of the External Recti in the Treatment of Insufficiency of the Internal Recti." Dr. Javal, of Paris, showed his beautiful and ingenious apparatus for the subjective and objective determination of astigmatism.

On the third day, Professor Snellen inaugurated an important discussion on

SYMPATHETIC OPHTHALMITIS,

by an ingenious paper on the nature of this disease, and the mode of its transmission. Alleging the insufficiency of the explanation of a reflex action of the ciliary nerves, he proposed the hypothesis that sympathetic ophthalmitis should be regarded as a metastatic specific inflammation, in which special parasitical inflammatory elements were conveyed over to the choroid of the sympathizing eye through the dilated lymph-paths. Dr. Brailey followed with a paper on the pathology of the disease, in which he maintained that the uveitis which is met with in this disease presents certain definite pathological characters by which it could be distinguished histologically from all other forms of inflammation. He also agreed that the disease was not transmitted from one eye to the other by the passage of structural change along either optic or ciliary nerves. Dr. Poncet, of Cluny, then related a case in which, in an eye enucleated after enervation, for sympathetic mischief, examination showed changes of unusual intensity, due to the optico-ciliary neurotomy. He ascribed the permanence of the sympathetic pains to an interstitial sclerosis with irritative compression of the fibres of the peripheral ends of the ciliary nerves. A lively discussion followed, in which Drs. Mooren, Grünhagen, Samelsohn, Leber, Bouchut, Panas, and others took part.

Dr. Liebrecht, of Ghent, then recorded some practical observations on the examination of railway servants and seamen as to vision and color-blindness. Dr. Ole Bull, of Christiania, related a new method of examining and numerically expressing the color perception, and Mr. Eales, of Birmingham, read a short paper on Primary Retinal Hemorrhage in Young Men.

The fourth day was chiefly occupied with a discussion on

OPTIC NEURITIS

in connection with intracranial and spinal disease. Professor Th. Leber stated that optic neuritis in cerebral disease was a true inflammation, and was very different from the hyperæmia caused by venous stasis and the lesions which depended on it. This inflammation, he said, was not caused by stasis in the retinal veins from compression of the cavernous sinus, due to diminished intracranial space, nor was it the result of irritation of vasomotor nerves caused by the cerebral affection. It was the optic nerve which was the path of communication between the affection of the brain and that of the eye. An essential part in this transmission was taken by the effusion of a serous fluid into the sheath of the nerve extruded from the cranium by the increased intracranial pressure. This fluid did not act by simple mechanical pressure, since its quantity was sometimes small; probably it possessed phlogogenic properties. Intracranial tumors acted as a sort of foreign bodies, provoking inflammatory congestions and hypersecretion of fluid (internal hydrocephalus). The same effusions were found in meningitis when

it was followed by papillitis. The origin of papillo-retinitis in cerebral diseases might be explained by assuming that the intracranial inflammation produced serous effusion, which passed into the optic sheath, and exerted an irritating action on the papilla and neighboring parts of the eye.

In a paper on the

RELATION BETWEEN OPHTHALMOSCOPIC CONDITIONS AND INTRACRANIAL DISEASE,

Dr. Bouchet, of Paris, held that all the important diseases of the brain and cord, as well as the serious diathetic diseases, might be recognized by ophthalmoscopic examination. Thus, he argued, congestion and swelling of the optic nerve indicated congestion of the brain, meningitis, compression of the brain, or commencing spinal disease; œdema of disk and neighboring retina showed œdema of meninges and obstruction to circulation in the sinuses and meningeal veins, in tubercular meningitis, in acute and chronic hydrocephalus, in cerebral hemorrhage, in certain cerebral tumors accompanied by encephalitis, etc. Retinal varices and thrombosis indicated thrombosis of the sinuses and meningeal veins. Miliary aneurisms of the retinal arteries showed miliary aneurisms of the brain. In fevers and diseases of the nervous system, retinal hemorrhages indicated either compression of the brain by a copious effusion, the hemorrhagic diathesis, cardiac obstruction to the cerebral circulation, or changes in the cerebral and retinal vessels caused by chronic albuminuria, glycosuria, syphilis, and leucæmia. Miliary tubercles of the retina and choroid showed tuberculosis of the brain or meninges. Lastly, in nervous diseases, atrophy of the disk or sclerosis of the optic nerve always indicated a disseminated sclerosis of the brain or of the anterior columns of the cord.

After these followed a paper by Dr. Dianoux, of Naples, on the

TREATMENT OF DETACHMENT OF THE RETINA BY INJECTIONS OF PILOCARPIN,

in which it was stated that of sixteen cases treated by methodical injection of nitrate of pilocarpin six were cured, eight improved, and two were unsuccessful. The plan of using was explained and the contra-indications set forth. The dose recommended was strong at first, then moderate (salivation of at least two hours' duration); a series of fifteen consecutive injections should be given and then a rest for a week, and the treatment should be steadily kept up for three months.

REPORT OF THE COMMITTEE ON COLOR-BLINDNESS.

The business of the fifth day was begun by the Committee on Color-Blindness presenting its report. As regards persons working on land, the committee recommended a continuance of the rules adopted at the last International Congress at Amsterdam. For use at sea, the committee recommended that in all ocean-going ships the steersman and look-out man should have normal acuteness of vision and color sense, and that those in coasting vessels should have at least two-thirds of the normal standard. The officers and pilots, and all concerned in navigation, should have normal acuteness, there being no more than one dioptre of manifest hypermetropia up to the age of eighteen, and not more than one dioptre and a half above eighteen years. The committee further urged that all persons should be carefully re-examined at the age of forty-five by competent experts.

After this followed a discussion on

GLAUCOMA,

begun by Dr. Adolf Weber, of Darmstadt, with a paper on "The Pathological Changes Preceding and Causing Glaucoma." He pointed out that, amongst the changes preceding glaucoma, we very commonly observed disturbances of the general circulation, which diminished the difference between the arterial and venous pressure, to the disadvantage of the former. General nervous conditions were only so far of importance in glaucoma as they led to these circulatory disturbances. Morbid changes in the tissues, such as were found in old age, aided in causing glaucoma only as they affected the walls of the blood-vessels. After explaining the mechanism of the interchange of fluids in the eye, he concluded by stating that the only invariable antecedent, and, in that sense, cause of glaucoma, was a progressive contraction of the outlets of the intra-ocular fluids; the other antecedents, neither alone nor combined, could produce it. The clinical varieties of glaucoma, he said, depended on the seat, intensity, and extent of the contraction or obstruction in the efferent channels, on the primary or secondary character of this morbid process, on its inflammatory or non-inflammatory nature, the reaction on the circulation in the vessels, and its slow, acute, or destructive character.

Dr. Laquer, of Strasbourg, followed with a paper on "The Changes in Refraction which Occur in Glaucoma," and then Mr. Priestley Smith, of Birmingham, reiterated his views of the pathology of glaucoma. Dr. Angelucci, of Rome, then described the nature of Descemet's membrane and the development of the canals of Schlemm and Fontana, in relation to the etiology of glaucoma. The cause of glaucoma was, he thought, not to be found in the closure of Fontana's canal, which was a secondary change, but in sclerosis of all the membranes of the eye, and chiefly of the walls of the blood-vessels.

Dr. Knapp, of New York, gave an account of his operation of extraction of cataract by peripheral division of the capsule. After this operation, he had obtained, he said, the following average results: 90 per cent. of the cases had acuteness of vision varying from $\frac{10}{10}$ to $\frac{10}{200}$, 5 per cent. from $\frac{5}{100}$ to $\frac{1}{200}$, and 5 per cent. from nothing to perception of light.

The greater portion of the sixth and concluding day was devoted to a consideration of the treatment of glaucoma. Dr. de Wecker, of Paris, discussing the relative merits of sclerotomy and iridectomy in glaucoma, said that sclerotomy will be resorted to in those cases in which iridectomy is known to be dangerous—viz.: in glaucoma hemorrhagicum, or in glaucoma congenitale, or glaucoma infantile, otherwise known as buphthalmic hydrophthalmia; also where iridectomy is unreliable—that is to say, according to von Graefe's own admission, in simple chronic glaucoma, with the absence of any inflammatory symptoms. Also in those cases where the visual field has contracted nearly to the point of fixation, it is unsafe to remove any iris. Prolonged experience had, he said, satisfied him that the scleral incision alone is the best, most complete, and safest in simple chronic glaucoma. Experience had shown that a glaucoma simplex, which has resisted sclerotomy, is not to be cured by an iridectomy. The most striking results are got from iridectomy in acute glaucoma; and it might be said that the more acute the glaucoma, the more successful the operation is likely to be.

Dr. De Wecker concluded that sclerotomy was indicated: 1. In all forms of hemorrhagic glaucoma, and in those suspected of belonging to this category; 2. In all cases of glaucoma congenitale (buphthalmia); 3. In all cases of chronic simple glaucoma; 4. Whenever, after an iridectomy, the vision has deteriorated, or when the good result of this operation begins, after a period, to diminish; 5. In combating the prodromata of glaucoma; 6. In all cases of glaucoma absolutum, with complete atrophy of iris, and attacks of pain. Dr. Bader went somewhat farther, and laid down: 1. That the kinds of glaucoma treated by iridectomy can be treated, and more successfully, by sclerotomy; 2. That to secure success it is desirable to maintain a staphyloma of the conjunctiva, with or without prolapse of the iris. He showed several striking cases in support of these two propositions. Dr. Abadie, of Paris, on the other hand, maintained that sclerotomy was most suitable in cases of increased tension with deep anterior chamber. An interesting and animated discussion ensued, in which Mr. Power, Dr. Panas, Dr. Argyll-Robertson, Dr. Knapp, Dr. Samelsohn, and M. Galezowski took part. Dr. Hermann Pagenstecher, of Wiesbaden, subsequently described a new operation for the cure of ptosis, in which he established a firm cicatrix between the drooping lid and the adjacent frontalis muscle.

Dr. G. T. Stevens, of New York, then read a paper on "Oculo-neural Reflex Irritation," the conclusions of which were: 1. That among the centripetal influences which generate nervous affections, the irritation arising from a perplexity or exhaustion of nerves in performing the functions of adjustment of the eyes must be regarded as of great importance; 2. That when a family tendency to neurotic affections is found, the inherited tendency is often transmitted in the form of the eyes or the condition of their accessories; 3. That inveterate cases of functional nervous diseases not amenable to other forms of treatment will often yield readily to the simple process of relieving the eyes from muscular or refractive disabilities.

## SECTION ON DISEASES OF THE EAR.

The first subject for discussion was the value of operations in which the tympanic membrane is incised. Dr. Paquet read a paper on

### A MODIFICATION OF MYRINGODECTOMY FOR SCLEROSIS OF THE EAR.]

The author claimed for his operation the double advantage of a permanent opening and division of the tensor tympani muscle. In one case he was able to keep the perforation patent for two years. Dr. Paquet, however, did not inform the members what advantage beyond a permanent opening he hoped to obtain by the operation, nor did he explain how his operation effected what all other varieties of myringodectomy have failed to do—namely, a permanency of the opening. Dr. Guye, opening the discussion, divided the cases in which myringodectomy was advisable into four classes: first, in acute inflammation, with pus or muco-pus in the tympanic cavity; second, subacute or chronic inflammation, with a large accumulation of tenacious mucus; third, in chronic proliferous catarrh, attended by nervous symptoms, such as vertigo or tinnitus, etc.; fourth, in certain anomalous cases, as, for example, cases in which, owing to the patency of the Eustachian tube, the fluid, as secreted, escaped into the pharynx, and thus did not accumulate in sufficient quantity to exert enough pressure on the membrana tympani to cause its rupture, and yet enough to cause considerable pain. To these Dr. Loewenberg proposed to add cases of inflammation of the mastoid cells. In such myringodectomy cut short the inflammation and relieved the distressing pain. Mr. Dalby pointed out that most surgeons were agreed as to the advantages of the operation in the first two classes of cases; but the important question was, by what signs or symptoms could we, in any case of dry proliferous catarrh, tell that such a case would or would not be relieved by the myringodectomy? It must be admitted that the experience of most English surgeons was, so far, against the operation in the third group of cases; and, as Dr. Pritchard pertinently asked, "Are we justified in incurring the risk of making a patient worse for the very uncertain chance of making him better?"

Dr. Cassells read a paper on the

### ETIOLOGY OF AURAL EXOSTOSES.

The author drew a distinction between aural exostosis and hyperostosis. The former, he maintained, was a new growth, the latter a hyperplasm. They differed in origin, shape, structure, and number. In the discussion which ensued the speakers did not draw the distinction between exostosis and hyperostosis, but discussed them both under the general term "exostosis." Dr. Guye believed that multiple exostoses never completely occluded the meatus; as soon as the tumors attained sufficient size to come in contact with one another, they ceased to grow, thus leaving a small central passage. Dr. Loewenberg mentioned a curious case, in which the exostoses, without touching, were connected with one another by thin bridges of bone. The treatment of hyperostosis by the dentist's drill was generally agreed to be the best. Dr. Pritchard, however, related a curious case, in which, after drilling into the tumor, it was subsequently treated with a weak solution of nitric acid. At the end of some two months or more the bone was found to be so much softened that he was able to break off the tumor. Dr. Knapp, of New York, gave the result of his very interesting examination of two hundred and fifty skulls of the mound-builders of America. He found exostoses in forty-four; the exostoses were all rugged and on the posterior wall. They were supposed to be produced by the mechanical irritation of foreign bodies long kept in the external auditory meatus. Dr. Gellé and Dr. Loewenberg arrived at opposite conclusions as to the frequency of aural exostoses in France—the former considering them rare, the latter common.

Dr. Gellé read an instructive paper on "Nerve-Lesion Deafness," and Dr. Stevenson one on "Certain Conditions of the Eyes as a Cause of Loss of Hearing by Reflex Irritation." Dr. Knapp recorded a case of loss of hearing from mumps, and thought that other diseases most likely to affect the portio mollis nerve were cerebro-spinal meningitis and syphilis. Dr. Barr more accurately classified the causes of nervous deafness into three groups: 1. Affections of the tympanic cavity, involving secondarily the acoustic nerve; 2. Syphilis; 3. Hyperæmic disturbances. Dr. Knapp related some interesting experiments on the loss of vision and hearing following the use of large doses of quinine. The loss was temporary in both. In the case of vision the return of sensibility passed from the centre to the periphery, but did not reach completely to the periphery. The arteries of the retina disappeared.

The veins were scarcely traceable, and the disk looked atrophic. The field of vision was narrowed on the inner side, not so much on the temporal. Color perceptions were also diminished; objective symptoms in the ear were negative. He believed the poison acted centrally. Mr. Dalby probably expressed the opinion held by very many present, when he stated that although the effects of quinine on the ear, even in large doses, were temporary, the continued use of large doses did produce permanent impairment of hearing. Dr. Jones, of Chicago, however, stated that he had never seen a case of the ill effects of the continued use of quinine, and believed that sufficient allowance was not made for the effect of the malarial poisoning. If quinine acted injuriously on the hearing, it would do so much as the long-continued use of any stimulant (such as tea, coffee, tobacco, etc.) would, by exhausting the nervous system.

On Monday, Dr. Fournié read a paper on the

FUNCTIONS OF THE EUSTACHIAN TUBE.

He believed he had proved by experiment that one of the essential functions of the tube was to prevent unpleasant resonance of external and internal noises. This function assumed a permanent opening of the tubes, and he believed that the muscles which were usually considered dilators were in reality obturators of the tube. Dr. Rumbull did not agree with the views of Dr. Fournié, but believed that the air in the tympanic cavity was always in a state of slight rarefaction. This kept the membrana tympani tense and slightly concave. He believed that the tube was always slightly open, and not during deglutition only. He cited the following experiments in proof: 1. If the limit of hearing be taken with a watch, and the experimenter swallows with the nostrils closed, the sound of the watch is lost. If now the act of deglutition be performed with the nostrils open, hearing is improved, but is not so good as at first for some little time, showing that some air enters gradually after the act of swallowing. 2. If, after taking the limit of hearing, the tympanum be inflated by Valsalva's method, the hearing is diminished; on swallowing the hearing will improve, but will not reach the previous limit for some time.

Dr. Knapp, of New York, followed with a paper on "The Cotton-Wool Pellet as an Artificial Drumhead." An abstract of his views has been previously published in our columns.

Dr. Gardner-Brown next demonstrated an ingenious method for estimating the hearing power in health and disease. The author has conceived the idea that the point in the lessening amplitude of the vibrations corresponding with the moment of their loss to the sense of touch in the thumb and finger of the examiner, forms an excellent and convenient standard of reference for the auditory perceptivity of the patient.

The space at our command prevents us from more than mentioning the remaining papers, viz.: "Objective Noises in the Ear," by Dr. Fitzgerald; "The Accommodation of the Ear," by Dr. Gellé; "Paretic Deafness," by Dr. Woakes; "The Action of Syphilis on the Ear," by Dr. Pierce; "Caseous Accumulations within the Middle Ear, regarded as a Probable Cause of Miliary Tubercle," by Dr. Barr; "Some Difficulties presented in the Diagnosis, Prognosis, and Treatment of a Certain Form of Middle-Ear Deafness," by Dr. MacBride; "On the Prevention of Dumbness in those Cases where it follows Loss of Hearing," by Mr. Arthur Kinsey; "A Fluid Artificial Membrana Tympani," by Dr. Michelle. Among these, we would call special attention to the valuable paper of Dr. Woakes, which was unfortunately taken rather late in the meeting, but which will well repay perusal; and also to the one by Mr. Arthur Kinsey.

The meetings terminated with a vote of thanks to the President, Mr. Dalby, and the two Secretaries, Drs. Purvies and Pritchard, for the admirable manner in which the meetings were managed.

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## SECTION ON DISEASES OF THE TEETH.

The Section opened with an address from its President, Mr. Saunders, and an interesting paper by Professor Owen, both of which we omit for want of space.

The first subject propounded for discussion was that of

REPLANTATION AND TRANSPLANTATION OF THE TEETH.

Dr. Magitot described his method of replantation, and gave a record of ninety-two per cent. of successful cases. The general conclusion derived from the discussion which followed seemed to be that this operation should be adopted only when a tooth was otherwise in a hopeless condition, that the ends of the roots should be excised and smoothed, but that invariably successful results had been attained when sound teeth had been accidentally extracted and at once returned to their sockets.

An interesting summary of the experiences of Messrs. Clover, Braine, Bailey, and Coleman, read by the last-named, in the administration of anæsthetics at the Dental Hospital, Leicester square, since 1868, shows a total of more than 20,000 cases. Chloroform, gas, ether, nitrous oxide, and ethidene were given without a single fatality resulting from their use.

An important subject,

DENTAL SURGERY IN THE ARMY AND NAVY,

was brought forward, and it was strongly urged that a course of lectures on, with practical training in, the preservation of the teeth, should be included in the special subjects at military and naval medical schools, so that the health of our soldiers and sailors should not be endangered by the wholesale extraction of teeth.

A question of much interest to dental surgeons was debated during the most of one morning—the causes and treatment of premature wasting of the alveoli and loosening of the teeth. Various theories as to the causes were advanced. The edges of the alveolar sockets were implicated in the disease, and there was no doubt that the only efficient treatment was to scrape away, with suitable instruments, not only all tartar on the teeth, but also diseased portions of the socket until healthy bone was reached, and, in addition, to paint these portions with phenylic alcohol.

Mr. John Tomes, F.R.S., read an essay on

DENTAL EDUCATION,

which dealt most completely with the question, and was cordially accepted by the English, American, and foreign representatives as the ideal system. Mr. Tomes pointed out that the preliminary examination in arts was the same for the license in dental surgery as for the membership of the College of Surgeons of England, and that whilst most of the subjects in the two curricula were also the same,

where they diverged the difference was one of kind and not of degree, both costing the same in time, labor, and money.

A subject of general interest was discussed in a joint session of the Sections for Diseases of Children and for Diseases of the Teeth, when Dr. Magitot read a paper on "Honeycombed Teeth as an Evidence of Infantine Convulsions." This produced a good discussion, and elicited from Mr. Jonathan Hutchinson an expression of his now well-known views about the teeth. He stated that the true syphilitic teeth could not be mistaken, the characters being most marked in the upper permanent centrals. The normal tooth when first cut had at its incisive edge the appearance of three denticles (described by Mr. Moon), but in the syphilitic tooth the middle denticle was absent, and this caused the tooth to appear pinched and conical. After twenty years' experience he stated that though only, perhaps, present in one case in five, these teeth were certain evidence of hereditary syphilis. Honeycombed teeth were simply defective in structure, irrespective of shape, and Mr. Hutchinson believed this to be due to mercury given in infancy, be it for syphilis or other disorder.

In the discussion on the influence of septic agencies in causing caries of the teeth, Mr. A. Underwood and Mr. W. T. Mills read notes on their experiments, and showed some specimens of carious dentine and cementum, in which the presence of bacteria and micrococci was distinctly and beautifully demonstrated under $\frac{1}{25}$ objectives. They found that they could produce apparent caries in teeth placed in meat solutions and kept warm, with abundance of bacteria and micrococci in the tubules and lacunæ, as well as in the fluid, which became acid, but that when other flasks and teeth were rendered aseptic by the usual methods, no caries was produced and no germs detected.

Other papers by Dr. Norman Kingsley and by Mr. Mummery, on the causes of the increased degeneracy of teeth at the present time, were read. The former stated that the increase of nervous diseases correlated to deterioration of the teeth, each influencing, and in a measure, causing the other; whilst the latter imputed to the modern system of over-stimulating the nerve-power by too early education a defective power of assimilation and tissue formation, especially of the teeth.

The treatment of irregularities of the teeth and jaws was dealt with by several writers, and Mr. Coffin's system of expansion was justly appreciated. Mr. Coleman explained the vexed question of erosion of the teeth as being entirely due to friction over degenerated portions of tooth-substance.

## SECTION ON PHYSIOLOGY.

After the President's address, a discussion was opened by Professor Goltz, of Strasburg, on the

### LOCALIZATION OF THE FUNCTIONS OF THE CEREBRAL CONVOLUTIONS.

After a short historical review of the subject, the speaker referred to the experiments which he had made to ascertain whether the assertion of Flourens was true, that large parts of the cerebral tissue could be removed without causing apparent loss of function.

The method which Professor Goltz first employed, consisted, as he reminded the Section, of exposing the surface of the brain, and then washing away large portions of its substance by subjecting it to the action of a powerful stream of water. It was found that the statement of Flourens could not be accepted without reservation. After the destruction in the way indicated of large parts of one side of the brain, there results, for instance, hemiplegia, which is, however, not permanent, but transient, with cross-blindness. After destruction of large parts of both hemispheres by the same method, Goltz found that there was produced a permanent affection of the senses, which were observed to be dulled to an extraordinary degree, without being, however, lost. During the last two years, Professor Goltz, abandoning his earlier "washing away" method, has destroyed limited parts of the cerebral surface by means of circular drills with cutting and tearing edges, which, when rapidly rotated, destroy the part of the brain in which they are placed. By removing large parts of the skull-cap, and using such instruments, Professor Goltz has produced either very localized or very extensive lesions, of which he has studied the results—the dog being invariably the animal chosen for experiment. The results differed according as the anterior or posterior halves of the upper surface of the convolutions were destroyed. Without referring in detail to the various experiments of Professor Goltz, we have to draw special attention to his remarkable assertion that in the dog, after removal by his procedure of the greater part of the gray matter of the hemispheres, of the motor areas, and of the sensory areas, the animal may recover and live for a long period of time, without exhibiting any definite paralysis whatever. Such a dog, according to Professor Goltz, can see, taste, smell, feel—yet all these senses are dulled. It can move—yet its movements are clumsy. It has none of the paralysis of movement, and none of the losses of special senses, which the doctrines of Ferrier and of Munk would lead us to predict. But is the creature entirely normal? No, as Professor Goltz proceeded to state. Though the animal is not stone-blind, and can see, hear, and feel in a certain manner, yet perception is greatly interfered with, and the intellectual functions are weakened; the dog is in the condition of one demented, and many of its instincts are found to be perverted.

Professor Ferrier succeeded Professor Goltz, and stated *in limine* that he was prepared to accept the facts of so eminent an observer, though he rejected his conclusions. Until it is proved that the phenomena observed by Professor Goltz are dependent upon the gray matter of the hemispheres, it may be assumed that they are phenomena which require, in the case of the dog, merely the integrity of the great basal ganglion. He called the attention of the Section to the fact that Professor Goltz's experiments had been performed entirely on dogs, and he deprecated the drawing of general conclusions from experiments performed upon one animal species only. Without disputing the facts described by Professor Goltz, he would bring before the Section other facts, observed by himself in the case of the monkey, and which entirely corroborated his own views in reference to cerebral localization. Professor Ferrier said that by the galvano-cautery and the antiseptic method he had been enabled to establish definite and permanent cortical lesions. By this method he had corroborated his former experiments, and had produced permanent paralysis as well as loss of special senses.

The interest in the discussion culminated when the members were taken to see Ferrier's monkeys and

Goltz's dog. The one monkey had his left motor area destroyed, and was hemiplegic; the other had had the auditory area cauterized, and was completely deaf.

The dog, on the other hand, had, according to Goltz, been deprived of the larger part of both hemispheres, including the motor areas. Yet he only showed some clumsiness of movement and dulness.

The animals were subsequently killed, when it was found that the lesions in the monkeys were just as had been claimed, while the dog had not lost as much brain tissue as had been asserted.

The second debate was opened by M. François Franck, on the

MECHANISM BY WHICH THE HEART-BEAT IS REGULATED AND MAINTAINED.

After referring to the first observations on the rhythmical contractions of voluntary muscle made by Brown-Séquard in 1849 and 1853, and by Schiff in 1863, M. François Franck drew special attention to the experiments made in Ludwig's laboratory by Merunowicz and other observers, and which show that the isolated apex of the frog's heart, when subjected to the action of defibrinated blood or serum, beats rhythmically, and to the more recent observations on the same subject by Bernstein, Luchsinger, and Gaskell.

Dr. Gaskell followed the first speaker. One of his most important conclusions was, that the inhibitory action of the vagus is to be explained by its direct action upon the muscular tissue of the heart, and not upon an intermediate nervous apparatus—the nerve probably possessing the power of regulating the transformations of matter in the muscular substance, so as to affect the readiness with which these fibres are influenced by impulses reaching them from the motor centres. According to this view, the vagus would be the great trophic nerve of the heart. Space will not permit of our referring to the observations of Dr. Brown-Séquard, Professor Kronecker, or Dr. Carpenter, who called the attention of the Section to the interest attaching to the study of the movements of the heart of ascidians.

The next debate, upon

ANIMAL HEAT,

was opened by Dr. H. C. Wood, who reviewed his elaborate studies upon this subject.

Dr. Burdon-Sanderson, following him, referred to the errors which had hitherto been inherent to observations with the calorimeter, and to the remarkable improvements lately introduced into calorimetrical methods by M. D'Arsonville, who places his calorimeter in chambers of constant temperature, and who employs the graphic method to record continuously the changes in the volume of water of the calorimeter, which correspond to changes in its temperature.

Professor Kronecker recalled the observations made by him and by a pupil, with the aid of his maximum registering thermometers, and which proved how great an influence on the production of animal heat was exerted by the secreting apparatus situated in the walls of the alimentary canal.

The meeting of the Section on Monday was opened by a discussion on the

MICROSCOPICAL APPEARANCES OF STRIPED MUSCLE DURING REST AND CONTRACTION.

Professor Rutherford, of Edinburgh, who opened the discussion, gave a résumé of the views hitherto held on this difficult question, and then detailed the results of his own observations on the muscle of the crab, prepared by a new method. He entirely supports the theory expressed by Kölliker, that the sarcous substance essentially consists of fibrils united by a small amount of interstitial material. He finds eosine and aniline blue of much service in differentiating the several parts of the fibrils, the sarcous elements and the so-called Krause's membrane being readily stained by them. The sarcous elements are shaped like minute dumb-bells, with a slight swelling in the middle of the shaft, in the position of Hensen's stripe. The thin, dim line in the clear stripe, first described by Dobie, of Chester, and commonly named Krause's membrane, is due to a row of globules, as Busk and Huxley first indicated. The clear, as well as the dim, segments of the fibrils shorten during contraction. The refractile material of the sarcous elements moves toward their ends, leaving the shafts clear. The shafts of the shortened sarcous elements then become the clear stripe, while the original clear stripe is rendered dim by the transference of the refractile material of the sarcous elements to the immediate neighborhood of Dobie's line. This explains the "reversal of the stripes" in contracted muscle. The different stages of the transition may be clearly traced after staining with eosine or aniline blue. A series of preparations were shown in illustration and support of these statements.

Dr. Haycraft, of Sir Josiah Mason's College, Birmingham, maintained that the fibrils of striped muscle are homogeneous, and that the stripes are entirely owing to alternate convexities and concavities, which, with the stripes, disappear while the fibrils are stretched and their calibre rendered uniform.

This view was strongly opposed by Professor Rutherford.

The last discussion was on

THE VASO-DILATOR NERVES,

and was opened by Professor Morat. He described some researches made by Professor Dastre and himself, which led to the conclusion that there are vaso-dilator nerves, which, pass out of the spinal cord through the anterior roots of the second and third dorsal nerves (in the dog). They then, entering the sympathetic by the rami communicantes, pass up and supply the mucous membrane of the lips and hard palate and nose on the opposite side. Stimulation of their distal end causes dilation of the blood-vessels here.

Dr. Roy said that he had failed to find any vaso-dilator nerves in the spleen or kidney. He alluded to his discovery that the spleen is the seat of perfectly rhythmical contractions and dilatations, and that in the case of the kidney, effects are produced upon the renal circulation by drugs introduced into the blood, even after division of all the nerves going to the organs.

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## SECTION ON MILITARY SURGERY AND MEDICINE.

The Section commenced its work by considering the subject of the

ANTISEPTIC TREATMENT OF WOUNDS IN THE FIELD.

As the result of the discussion, certain very definite conclusions were reached. Professor Esmarch, Surgeon-General Mouat, V.C., Professor Longmore, and Dr. Casson, all agreed that strict Listerism, in-

volving the use of the carbolic spray, could not be attempted on the battle-field. Professor Esmarch stated that the chief object of the surgeon is so to treat the wound that no further harm may result to the patient during his transport to the dressing-station. Nevertheless, all agreed that the first dressing should consist of some antiseptic application, and various forms of dressing were recommended, capable of being carried in a small packet by each soldier on going into action.

At the next meeting, Professor Esmarch read a paper

ON THE TREATMENT OF INJURIES OF THE BLOOD-VESSELS IN THE FIELD.

He stated that all tourniquets should be replaced by elastic tubes, by which means effectual compression of the vessels could be secured until the wounded man be brought to the lazaretto.

Papers were also read on the

TRANSPORT OF SICK AND WOUNDED TROOPS IN TIME OF WAR.

Dr. Gori having made reference to the death of Dr. Otis, Surgeon-General Longmore referred to it in the graceful and feeling diction for which he is justly known. Dr. Billings replied on behalf of the Medical Department of the United States Army.

On Saturday, August 6th, the main discussion turned on the

ETIOLOGY OF ENTERIC FEVER IN INDIA.

The view of Surgeon-General Maclean, that enteric fever arises from pythogenic causes only, cannot be maintained. Surgeon-General Fayrer, Surgeon-General Hunter, and Dr. Norman Chevers, as the result of their unequalled experience, thoroughly disbelieve that all cases of enteric fever are due to filth causes and to a specific entity formed in the patient's body, but that there are unquestionably cases of atmospheric or climatic origin.

The subject for discussion on August 8th was the

INFLUENCE OF THE CONTAGIOUS DISEASES ACT ON THE PREVALENCE OF THE VENEREAL AFFECTIONS AMONG THE TROOPS SERVING IN THE UNITED KINGDOM.

The subject was dealt with chiefly from a statistical point of view. The paper on the subject was read by one so distinguished in statistics as Inspector-General Robert Lawson, and, as on all other occasions, the vast benefit of the Contagious Diseases Act, not only on the prevalence of all forms of venereal disease among the troops, but also among the civil population of the stations where the troops have been quartered, was abundantly proved. Thus, in comparing fourteen stations under the Act during the periods of 1861–66 and 1867–72, a marked diminution of the number of admissions into hospital in the latter period of six years, when the Act was in full force, was observable.

SUNSTROKE.

On the afternoon of the 8th, Sir Joseph Fayrer pointed out clearly the various conditions produced by the effect of the sun in tropical climates. These are chiefly three: simple syncope from exhaustion caused by heat; a condition analogous to shock due to the action of the direct rays of a powerful sun on the brain and cord; and overheating of the whole body from either the sun's rays or from the high temperature produced by them, causing high thermic fever. Concerning the grave prognosis in the latter condition, great stress was imposed. Grave structural changes are produced inevitably in the nerve-centres. The truth of this was testified to by Dr. Yandell, of America, Drs. Christie and Ewart, according to whose experience the character of the individual affected always became changed after so-called recovery. Mania and epilepsy also are most liable to follow, and the practical outcome of these facts was expressed in the opinion that no one who had ever had a real attack of *coup de soleil* ought to be allowed to return to India.

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SECTION ON MATERIA MEDICA AND PHARMACOLOGY.

Dr. William Squire read a short paper on

BROMIDE OF ETHYL,

and Dr. J. Milner Fothergill on

STRYCHNIA AS AN EXPECTORANT.

In the subsequent discussion, Dr. Lauder Brunton said he could fully confirm Dr. Fothergill's statement that strychnia was a powerful stimulant of the respiratory centres, and he often employed it with success in the treatment of the night-sweating of phthisis. He considered that the pathology of the night-sweating of phthisis admitted of a very simple explanation. The respiratory centre becomes exhausted by reflex irritation from the lung, so that it no longer responds so readily as it should to the stimulus directly applied to it by carbonic acid in the blood circulating through the medulla and spinal cord. In consequence the blood becomes more or less venous, and to this venosity and the consequent imperfect tissue-change the nervous and muscular exhaustion and prostration observed as an accompaniment of night-sweating was attributable. When a dose of strychnia or nux vomica is administered at bedtime, the excitability of the respiratory centre is stimulated, so that any excess of carbonic acid increases its activity, and thus the accumulation of carbonic acid is prevented and the sweating checked. Picrotoxine is also a powerful stimulant of the respiratory centre, and this may explain the success which has attended its administration in the night-sweating of phthisis. The cases in which strychnia is specially indicated are those in which the cough is not so violent as to be distressing, and where the general debility and weakness of the circulation and digestion are prominent symptoms.

Professor Eulenburg's paper on the introduction of an

INTERNATIONAL PHARMACOPŒIA

excited great interest, and gave rise to an animated discussion, in which many visitors from the Pharmaceutical Congress took part. It was resolved to appoint a committee, consisting of two delegates from each country attending the Congress, to co-operate with the committee appointed by the Pharmaceutical Congress, with the view of taking such steps as might be necessary to draw up a scheme that would ultimately form the basis of an international pharmacopœia. At a subsequent meeting the following names were submitted for consideration, it being understood that the list was not final, and that it was incomplete: France, Dr. Dujardin-Beaumetz and Professor Vulpian, the Dean of the Medical Faculty of Paris; America, Dr. Wood, Professor Austin Flint; Prussia, Professors Liebreich and Rossbach; Holland, Professors Stokvis and Fokker; Switzerland, Professor Prevost.

Professor Plugge's paper on the

LETHAL DOSE OF DIFFERENT ACONITINES

gave rise to a prolonged discussion, in which M. Petet and others took part. There was a general consensus of opinion that the term aconitia, unqualified in any way, might mean anything or nothing. Some specimens were eight times as strong as others. The tincture of aconite, however, could be made of uniform strength.

In discussing the subject of the

NATURE AND LIMITS OF PHYSIOLOGICAL ANTAGONISM,

Dr. Wm. Murrell said that it was impossible to arrive at any definite conclusion or to obtain anything like precise information from observations made on man alone. It was difficult to distinguish between antidotism and antagonism. It was easy enough to arrest the tetanus of strychnia by paralyzing the motor nerves with curare, but this was not antagonism, for the two drugs acted on totally different structures. The great difficulty was to make absolutely sure that both drugs acted on the same part. This could only be done by working on substances consisting of protoplasm in one form only. The existence of antagonism, and even of mutual antagonism, could be shown by acting on cilia and alkalies alternately. But still more conclusive proof could be obtained by working with Roy's apparatus on the ventricles of the frog's heart. Many difficulties had been experienced in the use of this method, but since the introduction by Dr. Ringer of dried blood and saline they had been considerably lessened. Dr. Ringer had recently shown that a complete and mutual antagonism existed between chloroform and ammonia, and between iodoform and ammonia. Dr. Murrell then exhibited a series of tracings obtained with the same apparatus, and illustrating the mutual antagonism of extract of muscaria and atropia, and of extract of jaborandi and atropia. Some of these tracings were obtained with the whole ventricle, and to these objection might possibly be made on the ground that there was no absolute proof that the antagonism was exerted on identical structures, but other tracings were taken solely with the lower two-thirds of the ventricle which were known to be free from nervous ganglia, and to these the objection could not be urged, and they might be taken as absolute and positive proof of the existence of mutual antagonism.

Dr. William Squire's paper on

PILOCARPINE

contained nothing that has not long been the common property of the profession, but nevertheless gave rise to an interesting discussion. Dr. Jacobi, of New York, detailed at some length his experience with this drug in the treatment of diphtheria; and Professor Quinlan, of Dublin, who was the first to introduce jaborandi in Ireland, advocated its use in large doses. Dr. Henri Huchard, of Paris, said he had obtained excellent results in the treatment of diabetes, and also as a means of arresting the night-sweating of phthisis. In the latter case he regarded it almost as a specific. Mr. Martindale objected to a statement that had been made, that preparations of jaborandi, from their liability to contain a second alkaloid, jaborine, were less safe and less certain than pilocarpine. Pharmacists hesitated to accept the evidence that had been adduced in favor of the presence of this in true jaborandi.

The final meeting of the Section was opened by a long and interesting discussion on three papers bearing more or less on the same subject. They were on the "Action of Medicines upon the Heart and Blood-vessels," by Professor Boehm, of Marburg; on the "Action of Atropia and Muscarin upon the Heart of the Frog," by Dr. W. Gaskell, of Cambridge; and on the "Action of Duboisin on the Circulation," by Mr. G. A. Gibson, of Edinburgh. Dr. Murrell, after alluding to the different modes of investigating the action of drugs on the heart, expressed his surprise that Professor Boehm should have supposed that all anæsthetics had a similar action on the cardiac apparatus. Chloroform slowed the heart, and weakened, and finally arrested it in diastole; whilst ether quickened the ventricle, and exerted no paralyzing action. He was surprised, too, that no reference should have been made to the action of nitro-glycerine on the blood-vessels. Dr. Leech, of Manchester, gave some account of his experience with nitro-glycerine in the treatment of angina pectoris, and of certain observations he had made in a case recently under his care. Professor Rossbach, of Wurzburg, read a paper on "Papayotin." Dr. Jules Worms, of Paris, made a short communication on the "Action of Sulphate of Quinine in Glycosuria." After a vote of thanks to the President and secretaries, the proceedings terminated.

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THE MUSEUM.

Living examples of rare or very interesting diseases were shown every morning during the meeting of the Congress, in a room adjoining the Museum, at 9.30 A.M.; and these demonstrations were largely attended, forming one of the most successful features of the Congress. We give below notes of some of the cases shown:

Dr. Duckworth showed a group of well-marked cases of true gout with uratic deposits, and Mr. Hutchinson, on the same day, showed several examples of the same disease and rheumatic arthritis, separately and in association. Messrs. Macnamara, Page, and Treves exhibited cases of joint disease in tabes dorsalis. Mr. Page's case was remarkable, for the joint affection (which involved the foot) was present together with the Argyll-Robertson symptom and absence of knee-jerk, but without any ataxy. The patient had had severe pains in the limbs and vomiting some time previously. Dr. Ord showed a number of cases illustrating myxœdema, illustrating the disease in various stages of progress. Dr. Barlow exhibited a case of aphasia, with right brachial monoplegia, in a boy, the subject of hereditary syphilis; Dr. Sturge some cases of muscular atrophy; and Mr. Hutchinson two cases in which rupture of the brachial plexus was diagnosed.

Two cases of osteitis deformans (Paget) were shown.

Case I., under the care of Mr. Frederick Treves. The patient was a woman, aged forty-nine. Five years ago she began to notice some sense of weariness in the legs on walking, and then discovered a "bending" of the left shin. The case now presents a typical aspect. The left tibia is enormously thickened, and bends forward and outward. The right femur is bent forward at its upper part, and is greatly thickened. The right tibia and left femur are but little affected. The spine is much curved in the upper dorsal region, and in five years she has lost four inches in height. The skull is enlarged, and presents a very characteristic outline. Of the bones of the upper extremities only one is affected, viz., the left ulna. The bone is much thickened, and

curved backward. The movements of the hand are, however, not impaired. The affection is perfectly painless, and the patient's general health good.

Case II., exhibited by Mr. Symonds, surgical registrar of Guy's Hospital. The patient, a widow, aged seventy. At the age of forty-nine the tibiæ began to curve and become prominent, next the femora. Twelve years ago the left radius began to thicken and twist, and now it is so much elongated and curved that the hand is fixed in a position of complete pronation. The head and spine are unaffected.

Two cases of dactylitis syphilitica (Taylor) were shown by Mr. Dawson Williams. Case I., under the care of Mr. Churchill. A male child, aged two years and four months; no history of syphilis to be obtained. Nearly all the metacarpal and phalangeal bones of both hands, the first metacarpal bones of both feet, and the upper ends of the radius and ulna on both sides, as well as the nasal bones, were affected with a chronic inflammation, which had persisted for about a year, and had in the hands, feet, and nose, advanced to the suppurative stage.—Case II., under the care of Mr. Walter Pye. A male child, aged one year and ten months; a distinct history of syphilis in the parents; the metacarpal bones and phalanges of one hand, to the number of five altogether, were affected, as also the upper end of the radius.

A case of varicose veins of the abdominal wall was exhibited by Mr. Frederick Treves. A lad, aged seventeen, was kicked in the lower part of the abdomen, by a horse ten years ago. Some months after he noticed commencing varices in the left leg; the condition gradually extended. Now the left internal saphenous vein is extremely varicose, and ends as a huge mass at the saphenous openings. The superficial epigastric and superficial circumflex veins of the left side are also very varicose. The vein that runs from the axillary vein to the femoral (described by Mr. Fenwick in the anatomical section) is very conspicuous. He has a double varicocele; no hemorrhoids; viscera healthy. It is difficult to understand where the obstruction exists, if there be obstruction. If in the vena cava, it is hard to perceive why the right leg should be quite sound; if in the common iliac vein, the double varicocele is mysterious.

## ARMY NEWS.

*Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from September 4, 1881, to September 10, 1881.*

CAMPBELL, JOHN, Lieut.-Colonel and Surgeon, Medical Director of the Department. Granted leave of absence for twenty days. S. O. 91, Department of the South, September 2, 1881.

THE LAST OF TYPHUS FEVER IN NEW YORK CITY.—At a meeting of the City Health Board, September 6th, Professor Janeway called attention to the fact that the last typhus fever patient had left the Hospital on Blackwell's Island, and that there was no more typhus fever in the city. It still exists in London and St. Petersburg, but unless it is brought to New York from those cities, there is no danger of an outbreak of it in New York next winter. From the time of the outbreak on the 21st of March last to yesterday, there were four hundred and ninety cases of typhus fever in New York. One hundred and twenty-one of these ended fatally.

# Medical Items and News.

CONTAGIOUS DISEASES — WEEKLY STATEMENT. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending September 10, 1881.

| Week Ending | Typhus Fever. | Typhoid Fever. | Scarlet Fever. | Cerebro-spinal Meningitis. | Measles. | Diphtheria. | Small-pox. | Yellow Fever. |
|---|---|---|---|---|---|---|---|---|
| Sept. 3, 1881. | 0 | 18 | 74 | 8 | 13 | 82 | 8 | 0 |
| Sept. 10, 1881. | 0 | 33 | 73 | 8 | 9 | 63 | 14 | 0 |

THE DISCUSSIONS AT THE INTERNATIONAL MEDICAL CONGRESS.—We publish in this issue quite an extended report of some of the discussions at the International Medical Congress. The character of the men who took part, as well as the importance of the topics themselves, make these debates extremely valuable. We doubt if any portion of our reports of the Congress will be read with more profit or interest.

THE FATALITY FROM THE HEAT in this city last week was very great. The heat itself was something unprecedented, the thermometer rising on Thursday, the 8th instant, to 101° in the shade.

An unofficial and probably incomplete list of the cases of prostration or sunstroke from the heat during four days is as follows:

September 6th.—Six fatal cases of sunstroke.

September 7th.—Forty-four cases of prostration from heat and sunstroke.

September 8th.—Twenty-one fatal cases of sunstroke; fifteen cases of prostration from heat.

September 9th. — Eighteen fatal cases of sunstroke.

Total.—One hundred and four.

To this must be added an increased mortality among the children from diarrhœal diseases. The deaths September 7th were one hundred and twenty-four; September 8th, one hundred and sixty-eight.

TYPHOID FEVER FROM MILK.—A recent outbreak of a mild form of typhoid (?) fever in the Roman Catholic Orphan Asylum in this city, was ascribed to the poor quality of the milk furnished the children. An analysis made under the direction of the City Board of Health, by Dr. C. E. Munsell, gave the following result: Temperature, 60° F.; Lactometer, 109; Cream, per cent., 4; Water, per cent., 88.69; Fat, per cent., 2.64; Casein and sugar, per cent., 8; Salts, 68.

This showed that the milk was skimmed, and probably watered.

The milk-dealer was arrested, but was discharged, says Dr. Munsell, through political influence.

AMERICAN ACADEMY OF MEDICINE.—The sixth annual meeting of this association will be held in New York on Tuesday, September 20th, at 3 P.M.

AMERICAN GYNECOLOGICAL SOCIETY.—The annual meeting of this society will be held at the Academy of Medicine, 12 West Thirty-first street, September 21st, 22d, and 23d. Morning session at 10 A.M.; afternoon session at 3 P.M. The profession of this city and vicinity are invited to attend.

# Original Communications.

## THE TREATMENT OF DOUBLE TALIPES EQUINO-VARUS BY OPEN INCISION AND FIXED EXTENSION.

By A. M. PHELPS, M.D.,
CHATEAUGAY, N. Y.

*Mr. President and Gentlemen of this Society:* As a delegate from Franklin County Medical Society, I came to Albany expecting to take no part in the proceedings of this meeting only so far as the duties of delegate might devolve upon me. Since my arrival I have been urged by professional friends, to whom I had previously sent photographs, to report the case at this session of a little patient suffering from double talipes equino-varus, upon whom I operated by open incision and fixed extension.

The case was a little girl, six and a half years of age. I first saw her May 15, 1880. The feet were very rigid. The inner side was very much shortened, and described a sharp curve from the heel to the great toe, which rested upon the inner side of the tibia when the weight of the body was put upon them. The attempt at walking had produced large bunions upon the dorsum of the feet, which were very much inflamed. The head of the astragalus was subluxated forward, and the limbs were very much atrophied.

FIG. 1.

Fig. 1 is taken from the photograph presented to the Society, and gives a correct idea of the extent of deformity.

Under an anæsthetic, and assisted by my friend, Dr. Farnsworth, and my student, Mr. Van Vechten, I divided subcutaneously the tendo achillis, tendon of tibialis anticus, the plantar fascia, and such contracted tendons and bands in the soles of the feet as I could safely do without wounding the artery and nerve. The feet were imperfectly restored to their normal position, and dressed with Sayre's temporary dressing (see Sayre's "Surgery," p. 98). After the wounds had healed, and upon the seventh day, Barwell's dressing with rubber muscles was adjusted to each limb, and faithfully continued for two months. Manipulation, showering of the limbs, and strychnia hypodermically were used daily. Circumstances prevented the use of electricity. July 25, 1880, the feet had not improved since the operation in May, and showed a determination to relapse when the dressings were removed.

Dr. Alfred C. Post, of New York, who was in Chateaugay a short time before, related his treatment of a case of torticollis, in which he made an open incision, and divided all contracted parts upon a director, thus securing a thorough operation without the danger of wounding important blood-vessels. The case, after some thought, impressed me as being something new and thoroughly scientific. By referring to authorities, I found no mention made of an operation upon club-foot by open incision. Sayre advises the division of the skin when it offers resistance to the foot being extended to its normal position. So, with no little hesitancy, I decided to operate upon my case by open incision, and dress the foot in a normal position, and keep it there until it healed. Under an anæsthetic, and assisted by Dr. Farnsworth, I made an incision half an inch in front of the ankle-joint, extending across the inner side of and two-thirds the distance across the soles of the feet, through the skin and cellular tissues. Each contracted part was now carefully divided as it showed itself, when the parts were put upon the stretch by extending the feet. After the completion of the operation, it was found that the incision had been carried down to the bone in both feet. The artery and nerve were both divided in the right foot accidentally; but in the left they were carefully guarded. The long calcaneo-cuboid ligament was not divided, as it offered no resistance; otherwise it would have been cut. The tendo achillis was divided subcutaneously. I would suggest the use of an Esmarch bandage in all cases of the kind. The wounds were dressed daily with balsam Peru and oakum, and the feet kept extended upon a foot-rest which I devised for the purpose. A glance at the cut will furnish a correct idea of its construction.

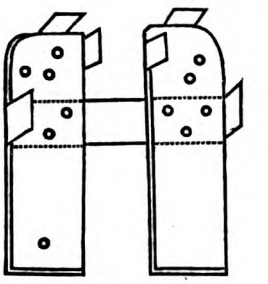

FIG. 2.

It consists of two boards the length and width of the foot, a little narrower at the heel than at the toe, screwed upon a plate of band iron, one and a half inch wide and ten inches long, the ends of which are turned up, projecting two inches above the board and just in front of the external malleolus. Another piece of the same iron is attached behind the inner malleolus. A leather loop is fastened at the end of the board, through which a bandage is passed and carried over the instep, to prevent the foot from slipping back. The board and projecting irons are carefully padded. A few turns of a roller-bandage secures the heel between the two fixed points. Now the bandage is carried over the instep from without *in* under the board; then between the board and foot from without *in*. Turn the bandage back over the foot from within *out*, and the toes can be drawn outward to the desired extent, the foot being used as a lever between the fixed iron points.

The wound healed entirely in three weeks. The

board was worn for fourteen weeks, which I think was unnecessary, the patient using crutches.

Three times a *delicate point* of nitrate of silver was drawn through the bottom of the wound, which gaped one and one-half inch. This prevented the growth of granulations at the bottom of the wound, and allowed healing to take place from the sides by the skin gradually crawling downward into the wound. By this process, and keeping the feet constantly extended, the inner and shortened side was lengthened nearly an inch. The feet were flexed upon the legs by cords passing from the end of the board to strips of adhesive strap secured to the legs.

FIG. 3.

Fig. 3 is from the photograph showing the result of treatment, taken fourteen weeks after operating.

After photographing, a Sayre's shoe was put upon the right foot, and an ordinary shoe with a stiff counter upon the left. The muscles are rapidly developing, and sensation is perfect in both feet. The patient can walk rather awkwardly without shoes, the feet showing but little tendency to relapse. The theory that a cicatrix invariably contracts, drawing the parts to their original deformity, has, I think, been demonstrated by Dr. Alfred C. Post, of New York, to be incorrect. In his paper upon deformities from burns, read before the State Medical Society, the doctor proves that if the parts divided be kept upon the stretch until thoroughly healed, the cicatrice will not contract and reproduce the deformity. If this is an established fact, and I think it is, why may we not lengthen the contracted side of a club-foot by keeping it constantly extended after a free incision? In this patient I am sure that I did. The result in this case and others with which I have had to do has led me to arrive at the following conclusions:

*First.*—That division of deep structures lying contiguous to important blood-vessels and nerves should be performed by careful open incision.

*Second.*—That, in all cases of varus in which there is a decided shortening of the inner side of the foot from the contraction of the tissues, free division of the contracted tissues by open incision and fixed extension of the parts is the shortest and most satisfactory route to a cure.

*Third.*—That all cases of varus should be at once extended as nearly as possible to the normal position before any appliance whatever is put on them.

*Fourth.*—When, by manipulation and a reasonable amount of force and time, the foot cannot be extended to a normal position, more can be done in five minutes with a scalpel or tenotome than can be accomplished in weeks, and often months, by all the appliances known to surgery.

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Since reading the above paper, I have operated upon another case—a little boy, seven and one-half years old—suffering from an extreme equino varus of the right foot.

Fig. 4 shows the foot before and twenty-eight days after the operation. The astragalus was subluxated forward, making a serious deformity. A large and painful bunion had formed over the metatarso phalangeal articulation upon the dorsum of the foot, marking the point upon which rested the weight of the body during locomotion. All tissues excepting the artery and nerve and long calcaneo-cuboid ligament were cut. It was with great difficulty that the subluxation of the astragalus was reduced after the incision was made. Each step of the operation and after-treatment enumerated in the case of the little girl was followed in this case.

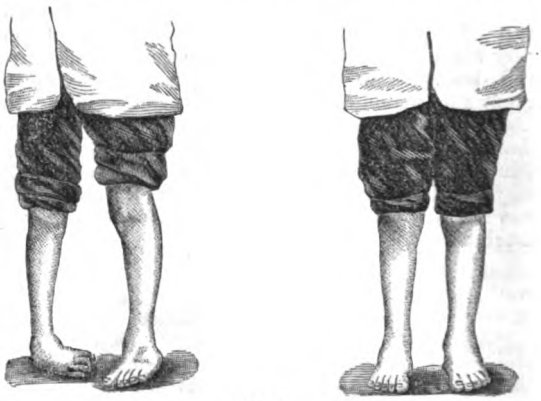

FIG. 4.

The wound, which gaped one and one-half inch, and extended to the bone, was entirely healed by the fourth week. At this time an ordinary shoe with a stiff counter was put upon the foot, and the little fellow runs about, the foot turning outward and being nearly free from deformity. I find that the cicatrice is somewhat sensitive, and has contracted but little. The inner side of the foot is materially lengthened. The atrophied muscles are fast regaining their normal tone and size. I had the pleasure of exhibiting this patient to Dr. Alfred C. Post, of New York, who was called to this village just twenty-eight days after the operation, and a day or two after putting on the stiff shoe. As to the extent of deformity, age of the patient, mode of operating, duration of treatment, and general result, I think he will verify every statement made. In a letter bearing date April 30, 1881, the doctor says:

"You are at liberty to say that I have seen your patient upon whom you operated for talipes by open incision, and that I regard the result as a very remarkable success."

In another letter, dated June 14, 1881, he says:

"I have operated on two cases of talipes equino-varus by open myotenotomy. The first case was that of a child eight months old. The degree of the deformity, and the rigidity of the parts involved were such as I do not recollect to have seen before in so young a child. I divided the skin, the plantar fascia, the flexor brevis digitorum, the flexor longus, flexor accessorius, tibialis posticus, flexor longus

hallucis, flexor brevis hallucis, abductor hallucis, etc. Having secured the vessels, I drew the foot nearly to its normal position, and filled the wound with picked lint dipped in carbolized oil, ten per cent. I then applied adhesive plaster and bandages, holding the foot nearly in its normal position. I omitted to state that I made a subcutaneous division of the tendo achillis. I performed the operation on May 7th, and on June 11th the wound was healed, and the foot, when bandaged, was brought into a position of slight flexion and abduction—that is, not only as far as the normal position, but a little beyond. The result was satisfactory in the highest degree. No tractile force was employed except normal extension, followed by a roller-bandage and strips of adhesive plaster. The second case was that of a little girl two and one-half years old, under the care of Dr. Jacobi at Mount Sinai Hospital. Dr. Jacobi requested me to operate, and I did so, following substantially the same course as in the former case. The case is not under my own care, and I have not been able to follow it up closely; but it is, on the whole, doing well."

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A VETERINARY MEDICAL REGISTER.—The *Journal of Comparative Medicine* has had compiled, for the use of its readers, a veterinary medical register. It contains about nine hundred names of veterinary surgeons, living in different parts of the United States.

This is the first effort that has ever been made to make such a compilation, and the work reflects much credit upon the enterprise of the editorial staff. In commenting on the comparative condition of veterinary and human medicine, the editor says:

"There are in the present Register eight hundred and ninety-eight names. We do not think that the total number of regular veterinary surgeons in this country greatly exceeds this. Of these there are, as nearly as we can estimate, not over two hundred veterinarians who have received a medical degree. The rest have picked up what knowledge they could in various ways, and have then assumed the title. Their education and professional skill is necessarily far below what could be desired.

Now, on the other hand, there were in this country in 1878, 120,000,000 domestic animals. A very low estimate of the value of these is $2,000,000,000. This does not include dogs, hens, and other smaller domestic animals and pets. The annual loss among all these creatures from various diseases and injuries is simply immense.

From one disease alone, hog cholera, there has been an annual loss of, it is estimated, $200,000,000. Devastating epidemics are likely to break out any year.

The loss to exporters on account of pleuro-pneumonia was, in one year, about $2,250,000.

We place these vast moneyed interests on one hand, and the very small number of educated veterinarians, who form an important element in protecting them, on the other. The necessity for more skilled practitioners is apparent, and is, indeed, a crying one.

It is estimated that there are nearly twice as many physicians in this country as are really needed.

There are, on the other hand, probably not one-twelfth as many fairly good veterinarians as our commercial and agricultural interests require, or as our sympathies with brute suffering should demand."

## AN INSTRUCTIVE EXPERIMENT.

BY GEORGE M. STERNBERG,
SURGEON U. S. ARMY.

NOTWITHSTANDING the researches of Pasteur,* as the result of which he announced, as long ago as 1862, that the alkaline fermentation of urine is due to the presence of a micrococcus, and the subsequent experiments of Lister, showing that, with proper precautions to exclude micro-organisms, urine drawn from the healthy human bladder may be kept indefinitely, freely exposed to the atmosphere, without undergoing any change, the chemists and physiologists have, perhaps, not yet generally conceded that this is *un fait établi*, and it is doubtful whether the full significance of this and similar discoveries has reached the understanding of a majority of the busy practitioners of medicine in this country.

The following experiments, therefore, which give very definite support to the assertions of the authors named, may not be without interest to the readers of the MEDICAL RECORD.

Having repeatedly demonstrated the presence of micrococci at the orifice of the male urethra, and knowing from Lister's experiments that urine, as contained in the healthy bladder, is free from bacterial contamination, it occurred to me that, perhaps, in passing urine from a full bladder, the first portion of the stream might wash away detached epithelial cells and bacterial organisms (see Fig. 2), so that the

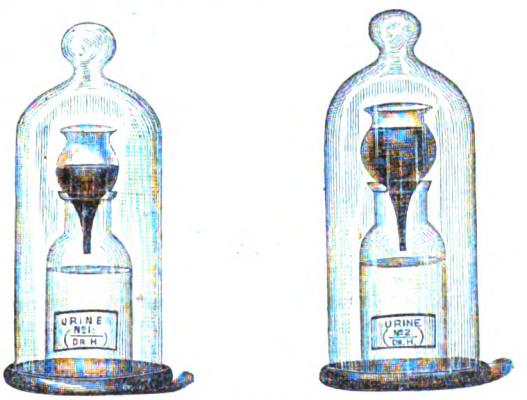


FIG. 1.

last portion, being received in a sterilized flask, would give evidence of freedom from these organisms by remaining unchanged; accordingly I made the following experiments:

*Experiment No.* 1.—Biological laboratory, Johns Hopkins University, Baltimore, Md., June 25, 1881.—Two bell-shaped cups were sterilized in the flame of a Bunsen burner, and placed under clean bell-jars, resting upon ground-glass plates, as shown in Fig. 1. (This is Lister's apparatus slightly modified.) These glass cups, having a stem drawn out in the flame, are more easily sterilized by heat than a wine-glass, which was used by Lister. They may be held in the flame of an alcohol lamp and introduced under the bell-jar while still so hot that any organism coming in contact with them would be destroyed.

They are supported by wide-mouthed bottles. This apparatus being ready, I desired my assistant, Dr. H——, to pass a small quantity of urine in No.

* Ann. de Chimie et de Physique, No. 62, p. 52, 1862; Comptes Rendus, Académie des Sciences, lvii., p. 210, 1864.

1 from the first portion of the flow, and in No. 2 from the last, removing and replacing the bell-jars as expeditiously as possible.

*Result.*—June 30th. No. 1 contains a considerable deposit, is turbid, and decidedly alkaline. No. 2 remains perfectly transparent, has no rudimentary deposit, and is acid. No. 1 contains an abundance of micrococci, which are shown magnified 1,000 diameters, in Figs 3. and 4, which are from photo-micrographs made from specimens obtained from this very experiment. No. 2 is free from organisms. A single drop taken up from the bottom of No. 1, by means of a pipette, was allowed to fall in No. 2. The following day No. 2 was turbid, had an alkaline reaction, and contained an abundance of *micrococci ureæ*. This experiment cannot be expected to succeed in every instance, as the complete washing away of organisms by the first portion of the stream may not occur, and it is possible that the urethra might have been washed out at the previous passage of urine, so that the first portion passed would be free from organisms, while the last might be contaminated by the detachment of epithelium, in which micrococci were imbedded, as seen in Fig. 2.

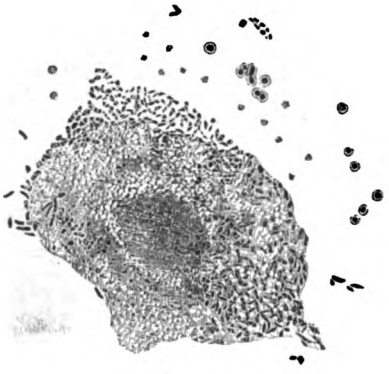

FIG. 2.

Some such explanation seems necessary to account for the result obtained in the following experiment.

*Experiment No.* 2.—Baltimore, August 1, 1881.—The above experiment was repeated, with the same precautions.

*Result.*—August 11th.—No. 1 remains acid and transparent in the upper portion, but the lower third is occupied by a loose, finely granular deposit, such as is often seen in fresh urine immediately after cooling (this deposit was noticed soon after the commencement of the experiment, and underwent no apparent change). No. 2 has an alkaline reaction—a film of urate of ammonia upon the surface, and contains an abundance of *micrococci ureæ* in the copious deposit at the bottom of the cup.

*Experiment No.* 3.—Baltimore, Md., August 1, 1881.—Four sterilized cups were prepared as in the previous experiments, and into each was passed a little urine from my own bladder, after first taking the precaution to disinfect the extremity of the urethra. This was accomplished by the liberal use of a three per cent. solution of carbolic acid, which was applied by means of a pledget of asbestos held by slender forceps. The asbestos was first sterilized in the flame of a Bunsen burner, and then being dipped into the disinfecting solution, was repeatedly and thoroughly applied to the mucous membrane to the depth of half an inch, or a little more. This operation produced some pain, and a little soreness upon passing urine was felt for two or three days.

*Result.*—Five days after (August 6th) the urine in all the vessels remained transparent. At this date No. 3 was inoculated with organisms from the mouth of the urethra. This was done by twisting around in the orifice of the urethra a small ball of asbestos, previously sterilized by heat, which was then dropped into the cup containing urine (No. 3), the bell-jar being removed for an instant only for this purpose. Five days later the contents of the four cups were carefully examined. Nos. 1, 2, and 4 remained transparent and acid; No. 3 was alkaline, and contained an abundance of *micrococci ureæ*.

By reference to the figures (at least as shown in my photo-micrographs—how successfully these may be copied I cannot say at this writing), it will be seen that the micrococcus shown in Fig. 2 differs somewhat in appearance from that shown in Figs. 3 and 4. The specimen from which the first was

FIG. 3.

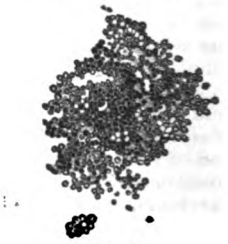

FIG. 4.

taken was obtained by applying a thin glass cover directly to the mucous membrane at the extremity of the urethra, which was everted by slight pressure, while the others, as already stated, are from urine which had undergone the alkaline fermentation.

By the little operation above mentioned I have always been able to obtain an abundance of micrococci, scattered or adherent to the surface of epithelial cells, from the mouth of my own urethra or that of others.

It must be remembered, however, that the use of high powers and proper staining fluids is necessary for their satisfactory demonstration. The photo-micrographs, from which these figures have been copied, were made with a Zeiss $\frac{1}{18}$ in. hom. ol. im. objective, and the organisms were stained for photographing with a solution of aniline brown.

The difference in size and grouping, to which attention is called, may be due to the fact that this organism, under different circumstances, assumes a different appearance, and that the form taken when upon the surface of a mucous membrane freely exposed to the air is seen in Fig. 2, while that assumed when it is submerged in a liquid having the composition of urine is seen in Figs. 3 and 4. It is possible, however, that we have here two different organisms, and that the *micrococcus ureæ* is less abundant than the form seen in Fig. 2, and that it consequently escapes attention. This is a question to be settled by future experiment.

NITRITE OF AMYL IN CHORDEE.—Nitrite of amyl will be found a very effectual remedy in chordee and painful priapism. We have recently prescribed it for those conditions with very satisfactory results. Three to five drops, by inhalation, is the proper dose.—*St. Louis Clinical Record.*

# CLINICAL STUDIES OF INEBRIETY.

By T. D. CROTHERS, M.D.,

HARTFORD, CONN.

I PROPOSE to group some cases of inebriety which have come under my care, with the object of showing certain causes and conditions that have never been studied or recognized.

I do this in the form of clinical reports and outlines, with no attempt to be exhaustive, but rather to indicate fields of inquiry which can be studied in the practice of almost every physician. I approach this subject from a physical standpoint, and recognize in every case of inebriety a pathological as well as a psychological condition. The persistent or paroxysmal use of alcohol in toxical doses for toxical effects always indicates disease, whether we recognize it or not. In some cases this disease has begun long before alcohol was used; in others, alcohol has merely kindled into activity and fixed certain latent tendencies to inebriety; in all cases alcohol produces perversions and degenerations of every tissue of the body, and intensifies every abnormal condition that may be present. Also, every case follows some general line of progress, more or less uniform, which can be traced, in most cases, from certain definite causes. No case of inebriety can be called accidental, but is always the result of some special conditions, which may be unnoticed at first, insidiously passing through long years of an apparently formative stage, then bursting out, like a fire that has been smouldering, with an intensity that is both alarming and mysterious. A careful grouping of the history and symptoms of these cases furnishes unmistakable evidence of their curability, properly treated in the early stage of the disorder. Recently a condition called alcoholism has been described by many writers, who have asserted boldly that the general symptoms grouped under this term comprised the whole subject. Such views are not supported by any clinical history of cases, and are evidently based on the most imperfect studies of certain chronic conditions, which may or may not follow directly from alcohol. Hence, the term alcoholism as used at present does not describe cases of inebriety.

I wish to indicate in the following cases certain general conditions of exhaustion which react in inebriety with increasing frequency every year, beginning in functional changes and perversions of nutrition, and soon manifesting themselves in disturbance of the nerve-centres and loss of balance between waste and repair. After passing a certain limit it develops into some particular form of disorder depending upon unknown conditions. In these, and many other cases which I have noted, inebriety seemed to follow the medicinal use of alcohol given for this exhaustion. The alcohol, acting as an exciting cause, determined the form and nature of the disorder.

I think it will be clearly seen from further studies that there are certain conditions of neurasthenia which have a special tendency to break out into inebriety from the slightest exposure or use of alcohol. It is evident that alcohol, given for any length of time medicinally in cases of defective brain and nerve organizations, or in general impairment of nerve vigor and strength, is exceedingly dangerous, and likely to develop into inebriety.

In these cases there is often an unknown element or causation, which can only be understood by a careful study of all the conditions and surroundings, and a natural history of the patient.

CASE I.—*Inebriety from Exhaustion arising from Sexual and Dietetic Excess—Recovery.*—H——, born of healthy parents, on a farm, and after a vigorous boyhood, with a good common-school education, he came to the city as a clerk. He was correct and industrious in his habits, and in due course of time became partner, and finally, at forty-eight years of age, was a wealthy, prosperous merchant. He was married, perfectly temperate, gave strict attention to business, seldom going away for recreation. His business went on methodically, and with but little change from year to year. He had no special pleasures or interests outside, attended church regularly, went to the theatre occasionally, and seemed living a most temperate, healthy life. At this time he complained of sleepless nights and deep depression in the morning, found that his hands trembled after writing much, and a feeling of exhaustion followed any muscular exercise. He had every appearance of health, although his appetite was changeable and capricious. By the advice of his physician he went to Europe for six months, and returned with all these symptoms exaggerated. He was irritable and exhibited emotional disturbances, complained of dyspepsia and pains down the spine. An eminent physician was called in counsel, and general hyperæmia of the brain was diagnosed. After a few months of unsatisfactory treatment, another physician was called, and he urged generous diet, with large quantities of wines and old spirits. The result of this treatment was satisfactory, as nearly all the older symptoms disappeared, and he became an ardent advocate of the use of spirits as medicine. A few months later he became intoxicated, and quite violent for a time, and at last he was stupid every night from this drug. A new set of symptoms came on, which the attending physician affirmed were premonitory of ataxia. Another physician diagnosed alcoholism, and urged him to stop the use of alcohol. This was accomplished by substituting opium for the spirits, and when this was taken away chloral followed; then the long list of bromides and other sedatives were given, and finally he discharged all physicians, and began to use patent bitters, travelling to different mineral springs, and consulting quacks and any one that he imagined could relieve him. He suffered from loss of memory, excessive trembling, fear of death, muscular debility, and impulsive craving for spirits to relieve an undefinable sensation of weakness all over his body. His wife died at this time, and he came under my care. I found him using brandy, morphine, and chloral, the former constantly, the two latter irregularly, for every pain or disturbance that he detected in his case. He was suspicious, morose, excitable, drank milk constantly, and was full of petty whims; had dyspepsia, enlarged liver, disordered sensibility and motor functions. Advised with much clearness about his business, talked wisely about his own case at times, and was very urgent to give up the use of stimulants.

The treatment the first month after admission to hospital was principally baths and central galvanization, with powdered bark and phosphoric acid, as a tonic; massage, exercise, and regulated diet, with the mental stimulus of restraint, and rigid regularity in all the functions of every-day life, which was followed by rapid recovery. At the end of four months he went back to the city and arranged his business, and went out to live on a farm, under the care of a local

physician, who reports to me that he is now (two years later) in good health and spirits, only at times suffering from depression; that he is strictly temperate and careful of his diet; also that when he goes to the city on business, he comes back in great fear that he will be sick from the unhealthy conditions of city life.

This case was one of inebriety from exhaustion, and it would appear to the general physician to follow from close confinement to business, over-work, and perhaps bad conditions of living. The real history of failure of the ordinary functions of life was traced to excessive eating and sexual intercourse, extending over many years, with general neglect of all efforts to keep the mind in healthy activity by diversion.

Both mind and body had lost their elasticity, and inebriety followed most naturally, because it marked the real condition of exhaustion, and brought relief to many of the early symptoms. The mistake of prescribing stimulants for such a case merely precipitated what would have followed sooner or later. In his search for remedies for relief, alcohol would have been found and used in some form.

CASE II.—*Inebriety from Exhaustion and General Impairment of the Nervous Structure—Partial Recovery, Relapse, and Death.*—B——, a healthy, strong, vigorous clergyman in appearance, was admitted in 1879, with the following history: Both parents healthy, and no history of inherited disease in any member of the family. Was educated at Yale College, and entered the ministry at twenty-four years of age. He was stationed in a small country village, and spent but little time in study or visiting, but devoted great attention to the cultivation of plants and trees. At this time he was in good health, very temperate, and of quiet, reserved manner. Two years later he suffered from indigestion, and soon after began the study of foods and bathing. On this subject he entertained the most extravagant views, and carried them out in every-day life. He believed that the minimum quantity of grain food that would satisfy the appetite would promote longevity, and that bathing twice or three times a day was also essential. Other whimsical notions as to kind and quality of food entered into this theory, until at last he weighed and calculated every ounce of food and drink that entered his body. This continued for several years, impairing both his mind and body. Then he suddenly changed and became a gross eater and neglected to bathe. From this time he grew more indolent, and complained of nervousness, inability to sleep at night, great agitation during a thunderstorm, headache, exhaustion, and began to use bitters containing a large quantity of alcohol for relief. During a short journey on the railroad he was violently agitated by an accident which threatened to be very serious. The effects of this shock continued for several days, when he became intoxicated for the first time. A physician was consulted, and various remedies suggested and adopted without any results. For two months he remained in bed complaining of weakness, and drinking all the time freely of brandy and water. Finally he went abroad for a year, and returned worse than before. Two years of secret drinking and change followed; then he was brought to our care. His mind was full of delusions of persecutions, and a slight degree of aphasia was present; at times he reasoned clearly about his case, then seemed confused and talked about the exaggeration of his symptoms as seen by his friends, and his ability to recover if left to himself. He proved to be a very troublesome patient, seeking every opportunity to procure spirits, and was generally untruthful in all matters pertaining to himself.

Three months later he went away much improved, and began to supply a pulpit in the West. A year after he was taken to the City Hospital at Cincinnati and died from pneumonia. He had evidently been drinking for some time before.

Here the exhaustion had in all probability impaired the nervous structure, or so much weakened it that the violent shock from an accident permanently destroyed the equilibrium and the elasticity to recover again. His long-continued starvation diet, followed by the opposite extreme, led directly to inebriety. In both of these cases, even after inebriety had begun, the real causes were not recognized, and the usual element of vice was supposed to complicate and enter into the causation.

CASE III.—*Inebriety from Exhaustion—Not Recognized—Long-continued Medication—Recovery.*—A——, a successful banker, who came from the country when a boy, and through energy and temperate living had worked his way up to wealth and a position of great trust. He could give no history of inherited disease, and had lived carefully, avoiding all excesses, except late hours, all his life. When past forty and in easy circumstances, he spent most of his time at the club, playing billiards from nine in the evening to midnight and after. Often he indulged in a game supper before going home. He had for more than twenty years rarely gone to bed before midnight or after, and had eaten heartily in the early part of the evening, also smoked quite freely up to retiring. At about forty-six he began to complain of confusion of memory and thoughts coming and going momentarily, followed by depression of spirits and a general feeling of exhaustion. This increased to periods of trembling and unusual anxiety about minor matters. Extreme wakefulness at night, and a drowsy feeling through the day. A noted specialist thought symptoms of organic brain disease were impending, and advised alcohol and liberal diet, with rest from business. Three months of this treatment was followed by an abatement of some symptoms, and the appearance of others. He could not sleep unless using a large dose of spirits before retiring, and frequently he was under the direct influence of this drug. His mind had grown more dull and cloudy, and he was extremely irritable at times. His manners had changed, and he was changeable in his business habits, doing many things in a strange, unusual way. Other physicans were called in counsel, and in addition to many prescriptions a journey abroad was urged. In company with a physician he spent six months travelling, and returned with no improvement, but more confirmed in his alcoholic impulses. Another year of trial of remedies and different methods of treatment for various nerve-affections ended in disappointment. He was now using alcohol to intoxication nearly every day, and yet no one thought that this was a cause, or was of any influence, except to diminish the intense pain he claimed to be suffering from. On his way to Boston to consult physicians, he was taken off to spend the night in Hartford, and came out to see me, finally concluding to remain a few weeks. His physician wrote me a full account of his case, as one of general softening of the brain, attended with intense hyperæsthesia, for which alcohol alone caused relief. He urged that I continue the spirits by all means, as it would be perilous to drop them. The patient's

mind was filled with many delusions and a most remarkable dread of death and desire to live. His mind was also very acute in some things, and decidedly hysterical. By a little management the alcohol was withdrawn without his knowledge, and gradually all the acute symptoms subsided. Four months after he went away recovered, and spent the following winter in the country, improving steadily. At this time (a year and a half later), he has resumed his business, is a strictly temperate man, retires early and eats carefully, and gives much promise of permanent restoration. He has periods of depression yet, but by means of the Turkish bath and rest recovers quickly. His mind is good and he seems perfectly well.

This case is a very significant one, and represents a large class that can be found in nearly all business centres. The origin is perfectly clear, arising from irregularities of food and sleep; not over-work, but over-eating, and general neglect of all the healthy functions of the body. Lack of sleep, or sleep at irregular hours, will sooner or later impair the nerve-centres, and a long train of symptoms will follow, for which rest and diet, in most cases, will be all-sufficient. Alcohol may and will frequently relieve many of the symptoms following such excesses, but always at the peril of kindling a new disorder of the central nerve plexus, masking the real condition, and making recovery almost impossible. These cases almost always discover in alcohol a means of relief. For years I have urged that general exhaustion from excesses of any kind was the natural starting-point of inebriety. In dietetic and sexual excesses are often seen intimations of the approach of inebriety that cannot be mistaken. Other neuroses may supervene, or acute affections develop into chronic diseases, but the predisposition to inebriety seems to be present always.

Case IV.—*Inebriety from Nervous Strain and Exhaustion.*—E——, a lawyer, thirty-four years of age, temperate, and of healthy ancestry, living a quiet life, was unexpectedly elected to a responsible office. He worked hard, and was subject to much excitement and annoyances. He suffered from a short attack of fever, not well defined, for which he was given spirits freely. On recovery he continued to use alcohol, and one year later he was obliged to resign from office for inebriety. The mental strain and continuous excitement following the changed conditions of life when in office brought on exhaustion, which culminated in some form of fever, and the alcohol at this time gave form and direction to the neurosis. This case is now a confirmed inebriate, and has been repeatedly in jail for intoxication.

Case V.—*Inebriety from Irregular Food and Bad Nutrition, with Exhaustion.*—F——, a merchant of healthy parentage, temperate, and living a regular life, failed at thirty-two, owing to the bad management of his partners. Soon after he became a travelling agent for a manufacturer, and shared the profits of his work. For the next ten years he worked incessantly night and day, accumulating a large property. He travelled at night, and worked during the day, neglecting sleep, but he was very regular in eating. At forty-three years of age he could not sleep at night, had attacks of extreme restlessness, was very sensitive to noises, suffered from hyperæsthesia of the scalp and arms, and various digestive troubles, for which he was treated, generally with no benefit.

Finally he began to use bitters, and found relief. Then he became intoxicated from them, and at last drank whiskey every day, or bitters as he could procure it. Within a year he was a confirmed inebriate, and came under my care. I found him suffering from delusions of persecutions, extremely irritable, paroxysms of trembling, and sleeplessness at night. He complained of feeling exhaustion on the slightest exertion, and a sinking depression in the precordial region. Like all other cases, he was untruthful, impulsive, and needed strict watching, but after four months' treatment went away to live with his brother in Canada, who was a farmer. One year later he is in good health and has not used alcohol in any form. He is now buying country produce for a New York house, is very careful of his health, and works with great regularity, avoiding all excitement, either mental or physical.

The causes in this case were clearly exhaustion from irregular living, lack of sleep, and over-work. This exhaustion became more profound, until finally alcohol was taken to relieve it; then inebriety followed most naturally.

The following notes of other cases are given as supplementary, and as more fully exhibiting some of those conditions of exhaustion that are not studied or recognized at present.

Case VI.—An Irish laborer, with an obscure family history, but perfectly temperate for a period of five years while in the employment of a merchant, was severely stunned by a thunderbolt, and began to drink to excess. Complaining of general exhaustion, was sent to an insane asylum for mania from drink. Recovered and relapsed, and is now a chronic inebriate.

Case VII.—A healthy, temperate clerk was implicated in a till robbery; was intensely mortified and depressed, and was given whiskey at the jail quite freely for ten days. Was acquitted, but regularly, from this time, drank to excess.

Case VIII.—A railroad conductor, with good family history, who had been on the road twenty years and was overworked, but never drank anything. He was changed to a night-train, and soon after drank regularly, and then to intoxication; was discharged from the road, and is now a chronic inebriate. The strain from the changed work broke out into inebriety.

Case IX.—A mechanic, with a marked history of neuroses in his family, a temperate, hard-working man, lost his property by fire, and began to use beer, which soon culminated in stronger alcohols and inebriety. He died of pneumonia, superinduced by spirits, two years after.

Case X.—A young, nervous son of a farmer, with a history of insanity in the family, was employed as clerk in a drygoods house, with long hours and hard work. He boarded at a poor place, for economical reasons, was ill-fed, frequented bar-rooms, became an inebriate, and is now a chronic case.

Case XI.—A healthy farmer went into the drug business, was very ambitious to succeed, but failed and began to use quinine as a stimulant, then different forms of alcohol, and finally became a confirmed inebriate.

Case XII. was a physician of neurotic temperament, with a history of consumption and inebriety in the past generation. Was very prosperous, and by inheritance became the possessor of large wealth. He gave up healthy living and plunged into all kinds of pleasure, although not drinking. Six months' travel in Europe developed inebriety, and he is now a confirmed inebriate.

Case XIII.—A lawyer who had been on the bench for twenty years, and was much exhausted by over-

work, was advised by his physician to go abroad and to eat as much as he could, also to drink freely of wine. He returned in one year a periodical inebriate, and died two years after from excessive drinking.

Case XIV.—A farmer, suffering from malaria, was greatly depressed at the bad conduct of his son, who was sent to jail for theft. After two sleepless nights he began to drink alcohol to excess, and became an inebriate. He had been a healthy, temperate man up to this time.

These cases clearly originated in conditions of exhaustion, and the use of alcohol developed inebriety most naturally. Other forms of neuroses frequently follow, evidently dependent on causes that are unknown. The fact is well established that inebriety follows as a sequence in an increasing proportion of cases where physical and mental exhaustion are present. These neurasthenic cases cannot bear alcohol as a remedy in any form, without great danger. Any treatment of such cases which involves irregularities of living, food, or the use of wine, as in travelling abroad, is almost sure to develop inebriety.

A thorough study of these cases will often indicate the methods of treatment and the possibility of permanent cure.

## ANEURISM AND RUPTURE OF THE AORTIC VALVE.

By THEO. A. WEED, M.D., L.R.C.P., London,

CLEVELAND, O.

I was called, on August 18, 1880, to see H. J——, a clerk, aged thirty, fairly nourished, never had rheumatic fever. Always able to do his work, although he has suffered much from palpitation for the last eight years. Four months previous to the time I was called, he contracted a severe cold, which was followed by a hacking cough, dyspnœa, palpitation, and precordial pain. Two weeks before I saw him, he was compelled to give up work because of vertigo and general weakness. There was no history of hæmoptysis or aphonia. I found the patient suffering from nausea, dyspnœa, a dry, hacking cough, with his face exhibiting extreme anxiety. Temperature in axilla 100.2°; respiration, 31; pulse, 112, and of typical "water-hammer" character. Urine, 58 ounces; specific gravity 1,010; no albumen or casts present.

*Physical examination.*—Cardiac dulness increased to the right of sternum a very little. Epigastric pulsation marked. Apex-beat diffused. At ensiform cartilage a double murmur was heard, which was loudest at the base. At the apex a small systolic murmur, traceable to the anterior axillary line, was audible, and the diastolic murmur of the base was strongly conducted to this point. The systolic murmur heard at the base was conducted to the arteria innominata and to the carotids, which exhibited marked pulsation.

*Left lung.*—A few moist broncho-pneumonic râles were audible at the base.

*Right lung.*—Perfectly clear.

I ordered small doses of Squibb's digitalis with the liquor ammoniæ acetatis, confined the patient to bed, and restricted his diet to liquids. He steadily improved until October 15th, when, contrary to orders, he underwent a severe exertion, after which he exposed himself and got a chill. His cough became more troublesome and he complained of more palpitation. I saw the patient on the following day, and he exhibited the same physical signs already noted, together with a double pericardial friction-murmur at mid-sternum. Heart-sounds somewhat muffled and cardiac dulness increased. Free moist râles over both lungs. Feet and legs slightly œdematous. Cough increased and incessant. Abdomen distended with flatus. Temperature, 101°; pulse, 124 and weak; respiration, 38. Patient died at eleven o'clock that night.

*Autopsy*, fifteen hours after death.—*Lungs* very œdematous, with some fluid in both pleural cavities.

*Pericardium* contained nine ounces of straw-colored serum.

*Heart.*—Some small "milk spots" on surface and phlebolites in two cardiac veins. Left ventricle hypertrophied excentrically. Left auricle slightly dilated. Other cavities were normal.

*Aorta.*—A little dilated.

*Aortic valve.*—*Left anterior segment* thin, with the sinus of Valsalva much distended. The right half of this segment exhibited a round opening the size of a crow's quill, which led into a sac that was perforated by a number of slits, which are represented in the accompanying cut. Many of the thin

shreds thus formed were attached by one end and the other floated about freely in the blood-current.

The left half of this segment was perforated by a small opening with clean-cut edges, which led directly into the ventricle. The attachment of the segment to the right anterior was much thickened by atheroma. Its other attachment was normal.

*The posterior segment* of the valve became gradually thicker as it approached the right anterior, where the upper part of the frænum was absent, and the attachments, much thickened, fell over into the ventricle.

*The right anterior segment* was perforated on its right half by a semilunar opening with clean-cut edges. One coronary artery opened behind the left anterior, and the other behind the posterior segment.

*Mitral valves.*—A large patch of irregular vegetation was found attached to the cusp immediately under the aortic valve.

*Liver.*—Congested and somewhat fatty.

*Kidneys* weighed seven and one-half ounces each, and were also congested.

New Hospitals in Paris.—A new hospital has been opened in the Quartier Latin. It contains one hundred and fifty beds. It is divided up into well-ventilated rooms, each comprising eight beds. The system of ventilation is such that air is admitted from above and below, each patient receiving seventy cubic metres. There is also a lying-in room, a histological laboratory, and a dissecting-room for one hundred and twenty students. The hospital cost 1,800,000 francs.

A. M. Valcassy has left a bequest of 1,000,000 francs to the state for the establishment of an asylum for persons injured by accidents. It will be built in the neighborhood of the Vincennes woods.—*Cor. Monthly Review of Medicine and Pharmacy.*

# Reports of Hospitals.

## ROOSEVELT HOSPITAL, NEW YORK.

SERVICE OF DR. FRANCIS DELAFIELD.

### A CASE OF EMPYEMA TREATED BY INCISION AND COUNTER-OPENING—RECOVERY.

(Reported by J. West Roosevelt, M.D., House Physician.

THE following case seems worthy of record on account of the short time in which a cure was effected.

Laurence M——, aged thirty, a native of Ireland, married, was admitted to Roosevelt Hospital on March 11, 1881. Family history good. Always in good health prior to present attack. No history of syphilis; moderate drinker.

On January 26th caught "cold in his head." Nine days later, after slight exposure to wet and cold, had a single, not severe rigor, followed by pain in the left chest, and fever. Became delirious. Recovered somewhat, but did not regain his former strength. Five weeks ago, he states, a physician drew off a few ounces of clear fluid from his left chest by means of an aspirator. Felt better for a short time, and then grew much worse. Lost appetite, flesh, and strength rapidly; sweat profusely at night; feet swelled occasionally. For last two weeks has slept badly. Has had no pain since attack first commenced. On admission, poorly nourished; weak; face rather thin and pale; tongue clean; appetite gone. Bowels regular; urine alkaline, sp. gr. 1026; no albumen. Pulse good, 150; respiration 40; temperature 103.2°. Patient had a severe chill on the afternoon of admission. Physical examination revealed, over whole left chest behind, flatness, exaggerated breathing at apex, bronchial breathing and voice between the spine and angle of the scapula, and absent breathing and voice below this point. Over left chest, in front, there was dulness from apex to about the fourth rib, and flatness below, with bronchial voice and breathing over area of dulness, and absent breathing and voice below. Heart-apex one and one-half inches outside of *right* nipple line. On March 12th, thirteen ounces of rather thin, odorless pus drawn with the aspirator. Some blood was drawn with the last few drops of the pus, and the patient complained of sharp pain in his side.

Patient was put upon quinine and tonics. He had very slight febrile disturbance. Sweat a good deal. Had occasional attacks of slight diarrhœa, which were easily controlled. On March 27th began to complain of a great deal of pain in the left chest.

April 3d.—Considerable pain in left axillary line, level of sixth rib. An œdematous swelling has appeared upon the outer and posterior aspect of the left chest, from a little above angle of scapula down for four or five inches. The swelling is not red or tender.

April 5th.—Is losing ground rapidly. Sweats profusely at night and has quite marked evening rise of temperature. Apex-beat is in right nipple-line. Coughs a good deal. Drs. W. H. Draper and Francis Delafield both agree that the pus should be evacuated.

April 6th.—By advice of Dr. Delafield, ether having been administered, I made an exploratory puncture with the aspirator in the eighth interspace, and drew off a little thin, yellow, odorless pus. Using the needle as a guide, I made an incision about two inches in length in the eighth intercostal space, about three inches behind the axillary line, down to the intercostal muscles. These were pierced by the finger in order to avoid possible injury to the intercostal vessels. A stiff probe was then introduced, and an incision made about four inches in front of the first, in the seventh space, about one inch anterior to the axillary line, the tip of the probe being pressed firmly against the chest-wall as a guide. Approximately, ninety ounces of pus evacuated. A large-sized drainage-tube introduced, passing through both openings. Chest-cavity washed out with a warm solution of boracic acid (gr. v. to ʒ j.).

Operation performed under the spray, and a large Lister dressing, consisting of wet piece, with eight layers of dry carbolized gauze, and a piece of mackintosh, applied. Pulse remained good throughout the operation. Patient rallied well. Was kept lying upon right side during the night. The temperature, which was 102° in rectum on the morning of the operation, fell that evening to 99.2°. Respiration remained about the same. Pulse was of about the same frequency and a little stronger.

The patient slept well on the night following the operation. In the morning, discharge having appeared at the edge of the Lister, it was renewed under the spray, and a small quantity of boracic acid solution was run through the tube. No attempt was made at this or any subsequent dressing to wash out the whole pleural cavity.

On April 10th a quantity of salicylated cotton was added to the dressing, being placed over the wet piece.

On April 15th, patient was allowed to sit up for the first time while the dressing was applied. As he did so seven or eight ounces of healthy-looking, odorless pus ran out through the tube. Warmed carbolic acid, one-fortieth, was now run through the tube.

After this the Lister was renewed according to indications, and nothing of note occurred until April 28th, when, there being very slight discharge, a simple dressing, consisting of wet piece covered with salicylated cotton, was applied instead of the Lister. The spray was discontinued. Patient had gained wonderfully in strength and appetite. Had no cough. Examined by Dr. Delafield, who found that the lung had expanded to the angle of the scapula.

May 4th.—Smaller drainage-tube inserted. Discharge slight in amount. Very little pus, mostly serum.

May 11th.—Tube shortened one-half, and posterior opening allowed to close. Patient has been up for some days past. Only a few drops of serum from tube. No pus.

May 22d.—Tube removed, and opening kept open for a few days longer by a tent of carbolized gauze.

June 1st.—Patient had a severe chill. Wound looks healthy. Ordered quinine. Temperature fell to normal after the chill, and remained so. During the attack it rose to 104.4°.

June 2d.—Tent removed by order of Dr. Delafield, and sinus allowed to close.

June 10th.—Sinus closed. Examination of chest by Dr. Delafield revealed in front considerable retraction left side of chest. Left shoulder lower than right. The top of sternum is drawn over to the left side. Heart in normal position. Resonance in front normal, breathing not quite so loud as on the right side.

Behind.—Some lateral curvative of spine. The

upper part of the spine is drawn to the left; the centre of the spine somewhat to the right. Flatness on percussion from angle of scapula down, and dulness from angle to top of lung. There is natural breathing from top to bottom of lung; but it is not so loud as on the right side. The voice is heard down to the bottom of the lung.

The patient has gained much in strength. Appetite good. Color returned. Feels perfectly well. Discharged cured.

On July 8th he visited the hospital in good health, having regained almost all his former strength.

In this case especial care was taken to wash out the chest as little as possible, and the details of Lister were fully carried out. No mechanical means were employed to inflate the lung, and the success of the method was most gratifying. The temperature after the operation did not rise above 100°.

## BELLEVUE HOSPITAL.

SERVICE OF DR. POLK.

(Reported by George M. Swift, M.D., late House Physician, and Charles C. Barrows, M.D., House Physician, Bellevue Hospital.)

### A CASE OF EMPYEMA TREATED BY ASPIRATION—LATER BY INCISION ANTISEPTICALLY—RECOVERY.

AT this time, when so much interest is manifested in the treatment of empyema, the following case, in which repeated aspiration was thoroughly tried and proved unsuccessful, is especially valuable.

Jacob Asacson, aged twenty-two years, a Norwegian sailor, admitted to Bellevue Hospital, February 12, 1881. Patient's previous history good. Landed in New York, January 12, 1881, feeling perfectly well; says he was taken sick January 16th. Upon questioning him as to this illness, the patient gives the rational symptoms of a pleurisy with effusion. About two weeks before admission, he says that he began to sweat at night and has lost flesh and strength since; suffers considerably with dyspnœa. Upon admission, patient is a large-boned man, apparently somewhat emaciated; dyspnœa severe; respiration, 46; pulse, 132; temperature, 100° F.

*Physical examination.*—Marked bulging of the left side of the chest, which does not move with respiration; measurement upon the level of the nipple, left side, is eighteen and a quarter inches, right side seventeen inches. Over the left chest are found all the signs of fluid in the pleural cavity, and the hypodermic needle withdraws pus. Apex of heart beneath right nipple. Sixteen ounces of pus withdrawn by aspirator, with considerable relief of the dyspnœa.

February 13th.—Twenty-six ounces of pus withdrawn in the morning, and thirty-two ounces in the afternoon. Patient was ordered the best diet the hospital affords, ale, iron, quinia, and strychnia. It was thought best to withdraw the pus by frequently repeated aspirations rather than to withdraw it all at once. This plan was pursued, and for a week the side was aspirated daily; at the end of this time the note is as follows:

February 19th.—Patient says he is better; eats well, sleeps comfortably. His left side is now somewhat retracted, and is one-half inch smaller than the opposite side. About three ounces of blood-stained pus withdrawn. Bronchial breathing and voice are heard over the greater part of the lung. Below the seventh rib are absence of respiratory murmur and voice. Heart-apex now behind sternum. The condition of the patient was in the main good, but he constantly, though gradually lost ground. His appetite was usually good, but he continued to become more emaciated. Pulse never fell below 100—and at times rose to 120. Respiration averaged 25. Temperature was below 100° F. until February 20th, when it rose to 102° F., and after this date assumed a hectic character. Usually the temperature would fall after an aspiration.

February 26th.—It was proposed to perform the Lister operation for empyema, but the patient refused his consent. Accordingly the aspirations were continued as often as every second or third day: the left side continued to retract, the measurement of March 4th showing its circumference to be fifteen inches, that of the right side sixteen and three-fourths inches. The left lung seemed to have expanded somewhat. From this time the patient became worse. The retraction of the left side was so great that it was with difficulty that the needle (a medium-sized one), of the aspirator could be introduced between the ribs. Each aspiration withdrew about twenty ounces of pus, which was never of a foul odor.

March 17th.—The note is nineteen ounces of chocolate-colored (blood-stained) pus withdrawn; patient complained of much pain during the operation; the side had become very sore from the frequent introduction of the needle. He is weak, pale, and anæmic.

March 24th.—The patient, having given his consent, was etherized, and an incision was made into the left pleural cavity, in the sixth intercostal space, in the axillary line, under the carbolized spray. The intercostal space was too narrow to admit the introduction of a drainage-tube, and accordingly was enlarged by nipping off with bone-forceps enough of the upper edge of the seventh rib to admit it. Two hard-rubber tubes, fastened side by side to one another, were introduced, and a large pad of borated cotton placed over their external openings. The amount of pus and blood that escaped during the operation was considerable, but could not be measured. The Lister dressing was applied over the borated cotton, and a rubber bandage snugly over the whole chest. The patient was much exhausted after the operation. The dressings were changed in the evening of the same day under the spray, there having been a free discharge of pus through the tubes. In the course of a day or two the patient was in better condition, but complained of great pain in his side. This was thought to be due to the pressure on the ribs by the hard-rubber tubes, and was relieved by partly withdrawing them. The dressings were changed twice daily, and always under a carbolized spray.—G. M. S. (Dr. Swift's service in the hospital terminated April 1st, and the case came under the care of Dr. Barrows.)

From April 1st to April 6th the side was dressed daily under the carbolized spray. The hard-rubber tubes being so large as to cause pain by their pressure, they were replaced by two pieces of flexible English (Weiss) catheter, No. 10, secured to each other side by side, and held in position by carbolized silk thread, strapped to the chest with rubber plaster. The dressings were reapplied as described above. The note of April 6th is to the effect that the daily discharge has decreased, and now amounts to about two ounces of thick, yellow pus, not offensive in odor. This pus drains directly into the borated cotton.

On April 7th the tubes were removed, when about six ounces of greenish yellow pus escaped from the opening. They were then cut shorter and reinserted, the patient having complained that they were "sticking into him." The patient was then more comfortable. On April 8th the patient sat up for the first time. Discharge is very small in amount, and less green in color.

April 12th.—Patient continues to improve. Eats well, sleeps soundly, and suffers no pain. The daily discharge since the last note has been small in amount, and not offensive in odor. To-day six ounces of yellow pus, with no bad odor, came from patient's side during the dressing.

April 13th.—An ounce and a half of pus came away.

April 14th.—One drachm of pus discharged.

April 15th.—The drainage-tubes became displaced yesterday, and this morning the discharge from the side amounted to about two ounces. A piece of solid tissue, dark and shreddy, and not offensive, as large as a man's little finger, and resembling a piece of old fibrous adhesion, came from the opening.

April 17th.—As there has been some difficulty in retaining the double tubes in position, a single tube of the same material is substituted for them.

April 23d.—Since the last note the daily discharge continued to decrease in quantity till the 22d, when the dressings were scarcely stained. On the evening of the 22d the temperature rose to 100¼° F., it having been below 100° F. previous to this since the operation, and this morning the patient complains of pain in his left side and shoulder. The single tube is removed, and a soft rubber drainage-tube about three inches long (with fenestra) is introduced well into the pleural cavity, and about four ounces of pus are discharged. The tube is left in, and the dressings are reapplied.

April 29th.—Discharge is growing thinner and more scanty every day.

May 4th.—The cavity is syringed out with two per cent. carbolic solution to-day for the first time.

May 13th.—Dressings are now changed every two days. The cavity was filled with carbolized water, and found to be about three ounces in capacity.

May 23d.—A carbolized oakum tent is to-day substituted for the drainage-tube. The physical signs seem to indicate that the lung is expanding.

May 26th.—While the tubes remained in the incision the patient frequently complained of pain along the course of the intercostal nerve of the space in which the incision was situated, and which was believed to be due to pressure on the nerve. This has ceased since the tent has been substituted for the tubes.

May 31st.—Discharge very scanty. Cavity, when injected again to-day, is found to be much smaller in size than when last injected.

The patient has no pain, and says that he feels well. He is gaining flesh and strength daily. The apex-beat of the heart is now in its normal position. Over the lower two-thirds of the left side posteriorly are found, on physical examination, diminished vocal fremitus, bronchial voice, and distant, faint, bronchovesicular breathing.

June 2d.—Tent removed; dressings reapplied.

June 6th.—Dressings removed; no discharge; reapplied.

June 9th.—Sinus has closed.

June 14th.—The wound of the incision has healed, and no further dressing is necessary.

July 10th.—Since the last note the patient has been apparently entirely well, and, besides taking care of the house physician's rooms, has been doing a large share of the heavy work about the ward. He is anxious to go to sea again, and is only kept in the hospital until he can procure a position upon some suitable vessel. Physical examination indicates that there has been no reaccumulation of fluid, and in order to prove this the exploring (hypodermic) needle has been several times introduced, and has each time failed to bring away any fluid. Physical examination to-day shows slightly diminished motion of the left side. The left side measures on the line of the nipple sixteen inches (one inch more than when the operation was performed), and the right side seventeen inches at the same level. Over the upper two-thirds of the left side the vocal fremitus, percussion-note, vocal resonance, and respiratory murmur are normal, while over the lower third there is dulness, diminished fremitus, vocal resonance, and respiratory murmur, as over a thickened pleura.

From February 12th, when the patient came into the hospital, until March 24th, when the side was opened, aspiration was performed nineteen times, the total amount of pus withdrawn being three hundred and ninety-five ounces; the smallest quantity withdrawn at any one aspiration being one ounce, and the largest, thirty-two ounces.

The last two aspirations were performed on March 19th and 22d, and resulted in the withdrawal of thirty-two and twenty ounces of pus respectively. It is thus seen that the production of pus was not at all diminished by the frequent aspirations. At no time during the whole course of the treatment after the operation were the dressings removed, except under the carbolized spray, and with full antiseptic precautions, and it is believed that to this the successful result is mainly due. The borated cotton makes an excellent addition to the Lister dressing in such cases, as the discharges, which are apt at first to be profuse, are readily absorbed by the cotton, and do not so quickly soak through the dressings. The rubber bandage which was applied over the whole chest, from the armpits to the waist, served to hold the dressings well in place, to make a firm and gentle pressure on the chest-walls, and to prevent the entrance of air beneath the edges of the dressings; and it is believed that this contributed not a little to the success of the case.

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URETHROSCOPY AT VIENNA.—By no means the least important of recent Vienna promulgations are the researches of Dr. Jos. Gruenfeld with the endoscope, or rather urethroscope. Beginning in 1871, as assistant in Sigmund's extensive syphilis division of the Vienna General Hospital, he has steadily and perseveringly pursued his studies with this instrument, and has finally earned deserved attention and recognition, not simply for himself and his method, but also for the subject—*urethroscopy*. This recognition took tangible shape in the form of an invitation by Billroth to write a volume for the "System of German Surgery," edited by Billroth and Luecke, of Strassburg, now appearing. The book appeared last year is being already translated into Italian, and will soon appear in English. That the author has somewhat exalted notions as to the future of endoscopy is not unnatural; but that he gives valuable information as to the investigation and treatment of pathological conditions in that small but troublesome field, the urethra, is acknowledged even by his fiercest opponents and critics.—*Cor. Chicago Med. Journal and Examiner.*

# Progress of Medical Science.

SUCCESSFUL REMOVAL OF A CALCULUS BY RAPID DILATATION OF THE URETHRA IN A FEMALE CHILD.—Mr. R. W. Parker reports (*Medical Press and Gazette*, May 14, 1881) an interesting case of calculus vesicæ occurring in a female, aged five years, and its successful removal by rapid dilatation. The bladder-symptoms seemed to have commenced two years ago, at which time the patient experienced difficulty in passing her water when in the upright position, never voiding any urine at night in the recumbent posture. On passing a sound into the bladder, a calculus was at once detected. The urethra was dilated with a three-pronged dilator until the little finger could be introduced. The stone was then seized and removed piecemeal. On examining the fragments, a nucleus was discovered, which was found to be composed of uric acid. Five days after the operation the patient was able to retain her urine during the lay. In three weeks she was discharged cured.

ON THE DIAGNOSIS OF CARIES OF THE SPINE IN THE STAGE PRECEDING ANGULAR CURVATURE.—In the *British Medical Journal*, June 11, 1881, Mr. Howard Marsh mentions the following order of symptoms as an aid to diagnosis: First, pain, which varies widely in different cases, both as regards its quality and in the degree of its severity. In disease involving the first two cervical vertebræ it is referred to the occipital region of the scalp. In other regions of the spine, pain, when it is present, is felt either at the affected part itself or below it. It is very rarely, indeed, situated at a higher level. If a patient complain of pain above the suspected spot, the presumption is either that it depends on caries at some point higher up, or that it is not due to caries at all, but to some other cause. Pain attending caries in the lower cervical region radiates over the shoulders and down one or both arms, and sometimes also over the front of the upper part of the thorax. When the dorsal spine is affected, pain is felt around the sides of the thorax—sometimes on one side only, sometimes on both—or at the middle line in front. When the lumbar spine is involved, pain spreads over the loins and pelvis and down the lower limbs—sometimes as far as the knee, sometimes even to the feet. The true meaning of pain in these various situations is apt to escape notice. Thus, in a patient with disease of the lumbar spine, pain, passing through the hip to the back of the thigh, had been attributed to sciatica, no doubt with the less hesitation because it was limited to one side. In other instances, again, pain complained of in one knee, and accompanied by an altered gait, has led to the belief that the patients had hip-disease. The uneasiness of pain caused by driving or railway travelling is often very suggestive. Some patients who can walk slowly and cautiously without pain, suffer severely from the jarring of a vehicle. The explanation of the fact probably is, that in the effort of walking the surrounding muscles brace up and steady the spine, while in the sitting posture they are more relaxed. Coughing or sneezing, or a false step, may occasion pain in the region of the spine affected.

The second order of symptoms by which caries of the spine in its incipient stage may be recognized, refers to the degree in which the column retains its natural mobility. These symptoms must be brought out by various exercises which the patient is made to perform. The test of picking up some small object, difficult to seize, such as a coin or a pencil, is a very telling one, especially in the case of children. If the spine be sound, the patient will stoop and raise himself without a pause, without hesitation, and without restraint; but, if mischief be present, his proceedings are often very characteristic. A glance will show that he is calculating how to manage so that he can keep his spine at rest. If the disease be acute, he will probably give up the attempt, and say that he cannot stoop. If he persevere, he will probably place himself so that the object is at his side; he will then cautiously bring his hand toward the ground, not by bending or inclining the spine, but by flexing his knees, while his spine is kept rigid and nearly perpendicular. Having at length succeeded in grasping the object, he will pause so as to be sure of his balance, and will then raise himself by straightening the knees, while, as before, he keeps his spine rigid and upright. In children, the suspicion that caries is present is strongly confirmed by the observation that the patient has some device for relieving the spine of part of the work of supporting the weight of the head and trunk. Thus, in disease of the cervical spine, the patient may be seen to rest the chin on the hand, or to support the head with the hands, especially in the effort of rising from the recumbent posture. Some children with cervical caries will sit for hours with their elbows on the table, and with the hands supporting the head. Others, who have disease in the dorsal or the lumbar region, have the habit of making their way to a chair, on which they place the palms of their hands, and over which, with their arms straight, they lean, so as to give themselves "high-shoulders," and so that weight is taken off the spine and transmitted through the arms. Another posture, very suggestive of mischief, is that in which the patient, having slightly flexed one knee so that the limb rests on the toe, places the hand on the middle of the thigh, and then leans over to that side, so as to convey weight from the shoulder through the arm, and so to the thigh. These schemes for the "collateral transmission of weight" are always worthy of very careful attention. Tapping with the knuckles on the spinous processes of the suspected vertebræ, Mr. Marsh regards as entirely untrustworthy. Another symptom, on which some observers lay much stress, is tenderness or increased sensitiveness found over the spinous processes corresponding to the carious vertebræ. It is a very common feature in cases of hysterical spine, and certainly tenderness is often absent when caries is distinctly in progress. The period at which angular curvature becomes apparent in the course of spinal disease varies with the form that the caries assumes. In instances in which inflammation involves the general substance of the body of one or more of the vertebræ, and is attended with rapid softening and absorption, angular curvature very soon results; but in some cases inflammation is limited to the external surface of the bodies of the vertebræ and their investing ligaments. Here extensive ulceration may take place, and even lead to the formation of a large abscess, before angular curvature ensues. Several examples have lately been seen in which iliac abscess, due to caries of the vertebræ, was present before angular curvature was perceptible, although it was developed at a later stage.

GLOMERULO-NEPHRITIS.—Dr. D. J. Leech has reported three cases in the *British Medical Journal*, June 25, 1881, which seem to indicate that glomerular changes may play a most important part in the production of the clinical phenomena in Bright's disease. The cases recorded presented very similar clinical symptoms. They ran a course of from two to six months. In all, general œdema was a conspicuous symptom, and the urine, small in quantity and of low specific gravity, contained a large amount of albumen. In none of them was the heart considerably hypertrophied. Pathologically, too, they resembled one another in this, that the glomerular changes seemed to depend on cell-accumulation between the glomerulus and the capsule, which assumed to a greater or less extent a fibroid appearance, and eventually led to destruction of its function. The changes resemble those which are met with in scarlatinal nephritis. Dr. Leech inclines to the opinion that the fibroid appearance mentioned is due to the flattened condition of the proliferated epithelial cells, arising partly from natural mode of growth, partly from pressure; and that this change may take place both in the epithelial cells from the glomerular surface, and in that of the capsular surface. He doubts that the cell-elements are derived from the interstitial tissue contained in the glomerulus. Firstly, because the appearance of the cell-growth between the glomerulus and the capsule appears to betoken an epithelial origin; secondly, because it appears not yet proved that interstitial tissue exists in the glomerulus. There was a very marked distinction in the appearance of the glomeruli in the cases reported. In the first, the changes seemed largely connected with the capsular epithelium, though there were in many parts indications that the glomerular epithelium was also affected. In the second and third cases, whilst the capsule was thickened and its epithelium considerably changed, the cell-accumulation seemed connected for the most part rather with the epithelium covering the glomeruli than with that over the capsules. With regard to the effect of changes in the capsule and its epithelium, and in the glomerulus and its epithelium, it is evident that we may possibly have different results, if, as seems probable, these changes can occur separately, or if one can greatly predominate over the other. Of course, in later stages, when the surfaces of the glomerules and capsules are united, the function of the former is abolished; but, in an earlier stage, effects of capsular stages may possibly differ from those of glomerular epithelial changes, and eventually be recognized clinically.

PHLEGMONOUS INFLAMMATION OF THE MAXILLARY, FRONTAL, AND SPHENOIDAL SINUSES OF THE ETHMOIDAL CELLS. — Weichselbaum reports three cases of this affection, no mention of which is made in the current text-books. The course of the disease was uniformly and rapidly fatal. The first patient was a robust soldier of twenty-one years, who had always been previously healthy, and was admitted into the Viennese military hospital on February 5th of the present year, with "*tetanie*." The symptoms of the latter gradually abated until March 8th, when a marked deterioration of the patient's condition suddenly set in, with elevation of temperature, symptoms of meningitis, and moderate icterus. On March 10th, an erysipelatous patch of the size of the palm was noticed on the right cheek, but did not extend, and on the following day the patient died. In the second case the course of the disease was still more rapid. A previously healthy soldier complained, on the morning of April 26th, of malaise and headache, but was able to be about. On the next day he complained of pain in the brow and upper jaw, there being, however, no objective signs except a febrile condition. Toward evening the condition became suddenly worse, the lips being cyanosed, with stertorous breathing, convulsions, and trismus, and death occurred during the night. The third patient was a woman of sixty-four years of age, who, after feeling unwell for several days, was attacked on April 26th with a chill, followed shortly after by erysipelas, commencing on the nose and extending to the cheeks and scalp. The patient died on May 1st.

In all of these cases a very peculiar condition was found post-mortem in the antra, frontal sinuses, and sphenoidal and ethmoidal cells. These cavities, especially the antra, were filled with a purulent fluid, while the lining involucrum was permeated with numerous opaque, yellowish white, partly disseminated and partly confluent patches of the size of a millet-seed and upward, the largest having a length and breadth of one to two ctm. and a thickness of three to five mm. These patches consisted of fibrinous exudation in process of purulent liquefaction, situated in the substance of the mucous membrane and periosteum, and were partly covered by the superficial layers of the macerated and yellow mucous membrane, while the larger plaques were exposed to view by ulceration of the latter. The mucous membrane between the patches was uniformly swollen, and was in part intensely congested, in part the seat of extravasations of blood. Besides these changes, there were present, in the first case, acute pachymeningitis in the anterior cerebral fossa, with purulent leptomeningitis, extravasations into the tissue of the pleura and pericardium, cloudy swelling of the liver, etc. In the second case (in which the disease had lasted only two days) the spleen was slightly enlarged, and the liver was in a condition of granular and fatty degeneration. Pachy- and leptomeningitis were also found in the third case, with consolidation of the anterior lobe of the left lung, enlargement of the spleen, and fatty degeneration of the heart, liver, and kidneys. As regards the nasal cavities, they were in all three instances but slightly altered. The mucous membrane was moderately congested and showed a few ecchymoses. Microscopically, the above plaques consisted of a dense reticulum of delicate threads of fibrin, in the interstices of which more or less pus-cells were scattered, the superficial layer of the mucous membrane being, as a rule, not infiltrated. The author considers the affection to be, anatomically, a croupous inflammation of what may be regarded as the equivalent of the submucous tissue of other mucous membranes, the only difference being that in these cases the exudation was mainly fibrinous, while in other situations it is more purulent. The affection is to be regarded as a primary infectious disease, ending fatally in the first and third patients by extension to the meninges, while in the second case death was due to a general systemic infection.—*Allgem. med. Centralzeitung*, June 22, 1881.

THE AMERICAN GYNECOLOGICAL SOCIETY.—One of the events of the week has been the annual meeting of the American Gynecological Society in this city. The meeting has proved a success in every way. At a future time we shall present our readers with the usual report of its proceedings.

# THE MEDICAL RECORD:

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GEORGE F. SHRADY, A.M., M.D., Editor.

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## THE END AT LAST.

The shock of President Garfield's death has been felt by none more keenly than by the medical profession. As a body the physicians of this country have watched the varying course of the symptoms with more intelligence and with no less sympathy than the rest of their countrymen. Perhaps a special knowledge of the case gave to the profession earlier assurance that the end must be a fatal and sorrowful one; but the blow struck just as sharply for all that.

This is not the place for eulogies of the dead, or for expressions of the sorrow and sympathy with which the land has been filled. We would, however, even though it be unnecessary, urge one thing with force upon our readers: the best tribute which the medical profession can pay, alike to the memory of our late President and the dignity of the art we practise, will be to avoid all carping criticism on the methods of the medical attendants; to let no scandal arise because of private grievance; to use the broad charity which is so well deserved by those who have worked with untiring faithfulness for the life they have had in charge. It is, we believe, the general verdict of the profession that the late President received all the aid which medical science, intelligently applied, could furnish. Looking back upon the case, even with the light of the autopsy before us, it is impossible for any one to say that any different mode of treatment would have saved the patient's life. And furthermore, we may claim that medical art prolonged for months a life which might otherwise have ended in a few days or weeks. We believe that this can be truthfully said, and that it will be echoed and endorsed by the medical profession.

After our notes, made in the last issue, upon the President's case, there was no material change in the symptoms until Friday, the 16th. There was then an increase in all the febrile symptoms. The pulse became weaker and more fluctuating, the respiration was more rapid, and the cough more annoying. There were evidences of a lobular pneumonia. There was an increase in the fever also. The secretion of pus from the wound and the parotid abscess was less in amount. The medical attendants officially acknowledged the existence of septicæmia. During the night the pulse fluctuated from 116 to 130, the temperature remaining normal.

Saturday morning the pulse was 108, respiration 21, temperature 99.8°. At 11 o'clock, the patient had a severe chill lasting half an hour, accompanied by vomiting and some mental disturbance. It was followed by profuse perspiration. During most of the remainder of the day the President slept, taking nourishment and stimulants at intervals.

On Sunday the 18th, there was a slight fever in the morning; in other respects the symptoms were not specially alarming until 6 o'clock, when another chill lasting fifteen minutes came on. Profuse sweating followed; also a fever which lasted until midnight. The pulse varied between 112 and 130. During the day liquid food and stimulants were given. Hot applications were also frequently made to prevent threatened rigors and to keep up the temperature, which showed a tendency to fall below the normal.

On Monday, the 18th, at 8.30 A.M., a third chill came on, lasting about fifteen minutes, and presenting similar characteristics to those which preceded it. At 6 P.M. a bulletin was issued stating that the pulse was 102, respiration 18, and the temperature 98.4°. There had been no especial change during the day. At 10.10 P.M. the patient awoke from a sleep, complaining of severe pain over the region of the heart. He almost immediately became unconscious, and died half an hour later.

As will be seen from the autopsy, the official account of which appears in another place, the immediate cause of death was internal hemorrhage. Although such an occurrence was not deemed impossible, the particular way in which it took place had not been anticipated by any of the surgeons in attendance. In fact, in attempting to reconcile the diagnosis of the case with the necropsical revelations, we are met with surprises in several directions. Notwithstanding the great amount of careful and intelligent study of the case, the precise course of the ball was not made out previous to death. Considering the parts involved, the strange deflection of the missile, and the extent of its penetration, any satisfactory and safe exploration would have been impossible. Indeed, the opening through the body of the first lumbar vertebra appears to have been discovered accidentally, as was also the ball itself. The missile was really found in the mass of intestines and annexa after removal of the latter from the body. The supposed track of the ball proved to be nothing but a burrowing sinus connected with the fractured

eleventh rib. The large pus-pouch under the liver was evidently due to the same condition, becoming converted into a closed sac by unequal healing of the course of the sinus. There was a remarkable absence of metastatic abscesses, notwithstanding the case was clearly one of chronic septic infection. We learn that, with the exception of a small pus-pellet in the left kidney, none of the vital organs were involved; and this in the face of the fact that during the last days of the patient's life there was an ominous development of pulmonary trouble.

In reviewing the case from an autopsical standpoint, it is quite easy to offer criticism. The stubborn facts of a post-mortem always stand out in bold relief against decisions rendered ante-mortem. But it must be recollected that there were peculiar difficulties in the case. They are best appreciated by all who have had experience in the treatment of gunshot wounds. However greatly we may regret that, in view of the great public importance of the case, a correct opinion as to the course of the ball was not made at the beginning and was not proven at the end, it is quite difficult to see how the error could have been avoided. There were no symptoms during life to point to the locality of the ball. But, even at the worst, as proving that the surgeons never knew during the life of the patient where the ball was located, there is nothing to show that in consequence of that error the patient suffered. The ball itself, by being firmly encysted, became harmless, while the real cause of all the trouble had its origin seemingly in the comminution of the eleventh rib. It is a matter for much congratulation that the bullet was not found in a pus-cavity. Under such circumstances, even if it were impossible to remove the bullet, there would have been many who would have claimed that such an operation should have been attempted, or at least that the neglect to resort to such a procedure was indirectly the cause of the patient's death. But all doubts in such a direction are cleared up by the autopsy. On the supposition that the ball should have been extracted in any event, what have we not escaped? At least the wisdom of not cutting down upon the missile until the locality of the latter was clearly made out, cannot be gainsaid. As nearly two hours were consumed in finding the ball at the autopsy, what might have been the chances of extracting the missile during life?

In commenting thus in a general way upon this remarkable case, we have to say that its strictly medical history is not yet complete. It was our intention in the present number to have given to the profession a full report, with illustrations, from Dr. D. W. Bliss, the attending physician to the President. For obvious reasons Dr. Bliss has been prevented from preparing his account of the case in time for use in this issue. We hope to be able to present it in our next, with the necessary diagrams of charts and carefully made illustrations of pathological appearances. As this report will be made exclusively to the RECORD, we shall spare no pains to make it acceptable to our readers.

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### WORRY AND BRAIN-EXHAUSTION.

IN a leading English periodical, Dr. Mortimer Granville has been discussing a subject which should particularly interest the impetuous workers on this side of the water. Referring to the increasing number of cases of sudden collapse from alleged "overwork," Dr. Granville offers some views which, if not exactly new, are at least not those currently entertained.

Constant warnings are being given at the present time against over-work. But, thinks the author quoted, these are generally misapplied. The brain can be tired by prolonged activity, just as may happen with a muscle. But we find that hard and persistent muscular work does not cause muscular collapse. Each day the reserve forces of nutrition renew the wasted protoplasm, and the frame keeps as strong as ever. So there is no more reason why there should be brain-collapse from systematic, though severe brain-work, than there is for paralysis or tetanus to strike down athletes or day-laborers. And we do, indeed, find that brain-workers are, as a rule, long-lived.

The cause of the frequent breaking-down of men engaged in the active work of life is referred, therefore, by Dr. Granville, to another source, and that is worry. Doubtless it is no new thing to be told that it is not work, but worry, which kills. But it is often useful to have general impressions fixed upon a definite and more or less scientific basis. Therefore we follow our author in the expansion of his views.

It may be assumed that, as the contraction of a muscle is caused by successive waves of nerve-impulses, so the mental activities are made up, after an analogous fashion, of undulations of nerve-impulses. In ordinary work, however hard, these impulses are sent out in a regular and rhythmical manner. It is the worry which comes in and disturbs this rhythm, exhausts the nerve-force, exhausts further the reserve or recuperative power, and breaks down the man. The strength does not weary of digesting digestible food; but add an unmasticated bolus of tough beef-steak three times a day, and there will be trouble eventually. Worry produces a kind of dyspepsia of the mind. It is to the encephalon what restaurant-pie is to the stomach.

The first inference from this presentation of the matter is easy and natural. It is that we should not worry. Such advice is perhaps the most fruitless that can be possibly given. Nevertheless, a diligent inculcation of it, and especially its application in educating the young, may not be without some avail.

If a man knows that he can hardly overwork himself (taking Dr. Granville's view), provided he preserves a philosophic calm, the knowledge can but be a help.

A second inference drawn, is that the fear of overwork need not be made the excuse for idleness. This caution applies especially well to the bringing up of children. Many parents are no doubt too anxious lest the minds of their growing offspring be overtaxed. There is danger for children in confinement and close study; but the greater danger and the break-downs come when to the study is added the anxieties and worry of examinations, competitions for prizes, and the other paraphernalia for the artificial excitement of children to extra and spasmodic industry.

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### DRIFTING TOGETHER.

Our esteemed contemporary, the *Lancet*, lately published two editorials which brought out a confession from the homœopathic fraternity that deserves some comment.

Discussing the venerable subject, *similia similibus curantur*, the editorial writer showed, with great clearness, the fallacy that lies in the foregoing aphorism, even granting the facts alleged to support it. Thus the homœopath finds that aconite, given in full doses, produces a condition resembling somewhat that of inflammation. Therefore, he gives aconite in small doses to cure inflammation. But the action of this, as of other drugs, is entirely different in small and large doses. And in the doses used for the treatment of inflammation it would, if given to the healthy or diseased, produce no inflammatory symptoms. The action is really, as nearly as words can express it, *antipathic*, not homœopathic.

Again, large doses of ipecac produce vomiting, small doses sometimes prevent it. But the action is not homœopathic, for small doses of ipecac are soothing or gently tonic. So with jaborandi: the small doses which sometimes relieve night-sweats are not the doses which would ever cause diaphoresis, but are those which give tone to the centres that larger doses paralyze. In the same way we might go through the list of drugs so often held up as illustrating the marvellousness of the homœopathic law: caffein for insomnia, podophyllin for diarrhœa, rhus toxicodendron for eczema, cantharides for vesical irritation. Such facts only show that tissues are differently affected according to their nutritive condition, or the amount of the drug that reaches them. To a certain extent there is, in a good many cases, a kind of physiological antagonism between the action of the small and the large doses.

At any rate, the term "homœopathic" is manifestly a misnomer, and it cannot be legitimately applied to any class of remedies.

The above exposition is by no means a new one; but it has an interest now since it brought out an admission of its truth from a number of prominent homœopaths.

Of course, it was claimed that the name could still be used if applied to the *selection* of drugs; but that is a minor question, and one that is quite distinct from that of their therapeutical action. The fact that what is offered to the public as homœopathic treatment is not homœopathic treatment remains.

Furthermore, as regards this selection of drugs on a homœopathic principle, it can certainly not be claimed that such method of selection is always best or is of universal value. Nor can it be asserted that it is sufficient without some practical experience to corroborate the theoretical deduction.

As the better class of homœopaths have now renounced infinitesimals, and as many have admitted the fallacy implied by the term homœopathy, there seems no reason why they should not give up their dogmas altogether and drift back as fast as possible to rational medicine.

On the other side, there has also been shown a disposition to give way. At the recent meeting of the British Medical Association the most important address, that delivered by Dr. Bristowe, was upon the subject of homœopathy, and that eminent physician advocated most strongly the breaking down of all barriers and the consulting with qualified homœopaths. When such an appeal can be made and listened to in conservative England, we may well believe that there is a drifting together.

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### THE AMERICAN ACADEMY OF MEDICINE.

The sixth annual meeting of the American Academy of Medicine was held in this city on Tuesday afternoon at the College of Physicians and Surgeons, Dr. Edward T. Caswell, of Providence, R. I., presiding, and Dr. Richard J. Dunglison, of Philadelphia, acting as secretary. The attendance was reasonably good, and much interest was manifested in the proceedings. Dr. Charles Carroll Bombaugh, of Baltimore, read a paper on "The Prevalent Misuse of the Term Allopathy." A committee of two, Drs. Dunglison and Marcy, presented an exhaustive paper on "The Condition of Legislation in Regard to the Practice of Medicine throughout the United States and the Dominion of Canada," the paper being read by Dr. Dunglison. Officers were elected for the ensuing year, as follows: President, Dr. Traill Green; Vice-Presidents, Drs. Elsberg, Strawbridge, Bombaugh, and C. C. Lee; Secretary and Treasurer, Dr. Dunglison, with a Council of thirteen members. In the evening Dr. Caswell delivered an instructive and interesting address, to which we hope to refer at another time. We are glad to learn that the association is prospering.

# Reviews and Notices of Books.

COULSON ON THE DISEASES OF THE BLADDER AND PROSTATE GLAND. Sixth Edition, revised. By WALTER J. COULSON, F.R.C.S. 8vo, pp. 381. New York: W. Wood & Co. Wood's Library of Standard Medical Authors.

THIS, the July volume, which is one of the Wood's Library for 1881, is the sixth edition of a work which has been out of print for a number of years. Mr. Coulson has revised it up to date, and given the profession one of the most valuable and comprehensive treatises on diseases of the bladder and prostate that has ever been published. The whole ground is gone over so thoroughly as to leave nothing to be desired by the practitioner who may wish to use it as a work of reference or as a guide to practice. All the latest advances in the treatment of bladder diseases are duly noticed, and an especial feature of value is a full chapter on Bigelow's method of litholapaxy.

ON CANCER, ITS ALLIES, AND OTHER TUMORS, WITH SPECIAL REFERENCE TO THEIR MEDICAL AND SURGICAL TREATMENT. By F. ALBERT PURCELL, M.D., M.R.C.S., Surgeon to the Cancer Hospital, Brompton. 8vo, pp. 295. Philadelphia: Presley Blakiston. 1881.

THIS is an attractive book in many ways. It is elegantly printed, beautifully illustrated, pleasantly written, and its subject is always full of interest. The author has had a large experience in the care of cancer cases, and he is supposed to speak with authority on the clinical points connected with the new-growths of which he treats. Although the reader is told that he must not expect anything original, either in theory as to the cause of cancer, or anything new in its treatment, he is fain to suppose that the author may be a trifle modest, and in so far give an extra interest to his work. But concerning the subject-matter he is destined to be disappointed, and is made to wonder why the author considered it necessary to write such a work. We speak of it now solely from the standpoint of originality. By itself it has much to recommend it regarding the value of its contents for the general learner. To the latter the author has done a real service in simplifying many abstruse points and in throwing much light on dark places. His general description of cancer, sarcoma, and allied growths is admirably clear, and their distinctive anatomical growths are well presented. The microscopical illustrations are particularly excellent, and serve to distinguish in a striking manner the differences in the anatomical characters of the abnormal growths, notably between cancer and the sarcomata. The study of the microscopical relations of these neoplasms is to our mind worth the price of the volume, as setting forth in a perspicuous manner the practical distinctions between the two great classes of malignant tumors. As a summing up of extensive experience, the conclusions of the author have more than the ordinary value, and will make an important addition to the clinical study of these diseases in their varied forms. The hereditary predisposition to malignant tumors is acknowledged and the local origin of the disease admitted. In order to reconcile the opposing views in regard to the relations of the two, our author contents himself with the assumption that cancer and other malignant growths are always local in origin; but there is a constitutional tendency for the development of the neoplasms born with the individuals—a want of co-ordination in cell-development, which allows of a heterologous formation in one or more parts of the body. At best this is an old idea revamped in a possibly more intelligible shape than we usually find it. As the author starts out with the assertion that no new system of treatment is to be advocated, the reader is prepared to learn that no specific for cancer has been found, not even in Chian turpentine, and that the early removal of the growth by caustics, the ecraseur, or knife, is the course which offers the best outlook for the patient. In constitutional treatment ferruginous tonics are recommended in the hope of bringing the system up to the point of resisting the inroads of the disease, and of possibly inviting a tendency to a possible atrophy of the growth itself. As a whole, the work is an important addition to the clinical history of the disease, and gives a comprehensive view of a very extensively cultivated field of observation and inquiry.

GENERAL MEDICAL CHEMISTRY, FOR THE USE OF PRACTITIONERS OF MEDICINE. By R. A. WITTHAUS, A.M., M.D., Professor of Chemistry and Toxicology in the Medical Department of the University of Vermont, Professor of Physiological Chemistry in the Medical Department of the University of the City of New York, etc. 8vo, pp. 428. New York: W. Wood & Co. 1881.

THE work before us is the August volume of Wood's Medical Library. It has been written specially for the series, by a gentleman who is an acknowledged authority and a successful teacher in his department. His aim has been to adapt the work to the wants of the general practitioner; in other words, to treat his subject more particularly as to its bearings upon physiology, hygiene, therapeutics, and toxicology. In so far he has succeeded even better than might have been anticipated, considering the acknowledged dryness of the subject and the necessity of accuracy of chemical detail. Although it is not a work which any practitioner would peruse for simple recreation, it is one which will serve its purpose as a practical guide in medical chemistry—as a volume for ready reference for the large number of medical men who, alas! are so much in need of the information which it gives. The classification adopted by the author is comparatively simple and practical. The modern system of notation has been followed, the weights and measures are given in the metric system, and the temperature in degrees of the centigrade scale.

THE MICROSCOPE AND ITS REVELATIONS. By WILLIAM B. CARPENTER, C.B., M.D., LL.D. Sixth Edition. 12mo, pp. 857. Philadelphia: Presley Blakiston. 1881.

THE sixth edition of this deservedly popular work comes to us with twenty-six elegantly finished chromo-lithographs and five hundred beautiful wood engravings of microscopical apparatus and microscopical preparations of the lower animals and vegetable kingdom. The general plan of the work is, of course, preserved in giving to the amateur microscopist all the necessary information to enable him to examine with satisfaction and profit the thousands of beautiful specimens of lower organisms which he is most likely to meet with. It is the most complete work of its kind in any language.

DANGERS TO HEALTH: A PICTORIAL GUIDE TO DOMESTIC SANITARY DEFECTS. By T. PRIDGIN TEALE, M.A., Surgeon to the General Infirmary at Leeds. Third Edition. 8vo, pp. 161. London: J. & A. Churchill. 1881.

THIS little work, as its title indicates, is intended as a guide to the ordinary householder in his attempts to find the sources of sanitary defects suspected on his premises. As such it serves an excellent purpose. By means of striking diagrams of faulty sewerage, taken from actual cases either under the observation of the author or his friends, he strives, very successfully, we think, to impress the people with the idea of general rascality in the plumber and unqualified perfidiousness in the cheap builder. The plates, seventy in number, are capitally executed, and will serve their purpose of giving at a glance some of the more glaring defects in sanitary engineering. The book should be in the hands of every householder.

ANTISEPTIC SURGERY: THE PRINCIPLES, MODES OF APPLICATION, AND RESULTS OF THE LISTER DRESSING. By DR. JUST. LUCAS, Championnière Surgeon to the Hôpital Tenon, etc. Translated from the second French edition and edited by Frederick Henry Gerrish, A.M., M.D., Surgeon to the Maine General Hospital, etc. Portland: Loring, Short & Harmon.

THE author's work has been well known to the readers of French medical literature, and has with justice been considered one of the ablest expositions of the Lister method that has been written. There is no middle ground taken regarding the value of the so-called antiseptic principle. To such as are prejudiced for or against the system, or to the much larger number who have no settled convictions, the work will prove a valuable and practical one. Every detail of the subject is worked up with the greatest care and thoroughness, and the necessity of each step is duly presented. It matters not whether the reader is a believer in the antiseptic system or not, he will find in this little work a number of valuable suggestions regarding the treatment of wounds, which he will hasten to turn to practical account. Although we will not say that no surgeon can afford to be without it, we can safely assert that every one engaged in surgical practice will add to his available stock of information by a careful study of its contents. Prof. Gerrish has made an excellent translation of the original into classical English, and infused into the whole a graceful style which affords enjoyable reading.

A TEXT-BOOK OF PRACTICAL HISTOLOGY, WITH OUTLINE PLATES. By WILLIAM STERLING, M.D., Sc.D., F.R.S.E., Regius Professor of the Institutes of Medicine in the University of Aberdeen. With thirty outline plates, one colored plate, and twenty-seven wood engravings. Philadelphia: J. B. Lippincott & Co., 1881.

DR. STERLING has added another to the already copious list of text-books on this fundamental branch of anatomy. It is certainly pleasing to note the attention now given to histology by English writers. Following as it does an era of apparent neglect, this cannot fail to stimulate the study of a very necessary department of anatomy. The present volume is handsomely made up in quarto size. Its only new feature consists in the insertion of outline plates of microscopical sections, which are intended to be filled in by the student. Doubtless, so far as histological drawings are concerned, this is an entirely original design. Whether it is equally practical remains to be seen. The main difficulty, we apprehend, will be found in the circumstance that the outlines of the student's sections will not correspond to those in the book; and hence, instead of receiving an aid to the making of a drawing, the student will be met by an obstacle to be overcome before a satisfactory result can be obtained.

THE PRESCRIBER'S MEMORANDA. 16mo, pp. 301. New York: William Wood & Co. 1881.

THIS pocket-sized memorandum is one of the most valuable of a series now being published by W. Wood & Co. This is saying a great deal, considering the practical character of these works and their intrinsic value as available handbooks. The little work before us is made up of a very judicious selection of items of treatment, and the collection of practical suggestions regarding the management of the commoner diseases. It is full of valuable and reliable prescriptions, and is evidently prepared by a practitioner of large experience and sound judgment. The practical value of the book is out of all proportion to its size and pretension.

# Reports of Societies.

## NEW YORK PATHOLOGICAL SOCIETY.

*Stated Meeting, June* 8, 1881.

DR. T. E. SATTERTHWAITE, PRESIDENT, IN THE CHAIR.

THE REPORT OF THE COMMITTEE ON MICROSCOPY

was read by DR. WILLIAM HENRY PORTER, Chairman.

The tumor removed from the nates and presented by Dr. Lewis H. Sayre, at a stated meeting, held March 9, 1881, was found, upon microscopical examination, to be composed principally of dense fibrillated connective tissue, arranged in a very irregular manner, as commonly seen in fibrous tumors. At points there was some evidence of an inflammatory action, in the shape of zones of round corpuscles. No cartilage-cells were found in any of the sections. The growth may, therefore, be regarded as a fibroma.

The tumor connected with the superior maxillary bone, and presented by Dr. C. K. Briddon at a stated meeting, March 13, 1881, was, upon microscopical examination, found to be epithelial in character. From the concentric arrangement of the epithelial elements into the so-called nest it was regarded as epithelial carcinoma.

Signed, WILLIAM HENRY PORTER, M.D.,
GEORGE L. PEABODY, M.D.,
ANDREW R. ROBINSON, M.D.

ANEURISM OF BOTH VERTEBRAL ARTERIES.

DR. W. M. CARPENTER presented a specimen with the following history, furnished by Dr. Anderton, House Physician at Bellevue Hospital:

J. D——, aged thirty, Scotch, was admitted to the hospital October 5, 1880. His previous history was that he had the initial lesion of syphilis seven years before, which was followed by secondary manifestations of the disease. In February, 1879, he had facial paralysis on the right side, from which, so far as he was able to judge, he entirely recovered. Late in September or early in October, 1880, he noticed

that he saw double, and soon afterward it was noticed that his right eye was turned inward, and he was unable to rotate it outward.

On admission there was internal strabismus affecting the right eye, deafness in the right ear, and loss of voice. There was paralysis of the right vocal cord, and the optic papilla was prominent.

On October 17th, facial paralysis on the right side returned, and he was unable to close the right eye. Iodide of potassium was administered in gradually increasing doses, until seventy-five grains three times a day were given, and with marked benefit.

On April 17, 1881, he had an epileptiform convulsion. The iodide of potassium was discontinued, and the bromide of potassium substituted.

On April 24th the note was that he had not had another convulsion, and was again able to do his work about the doctor's room. On April 29th he complained of headache, and felt dull. On May 9th he was obliged, on account of headache and general feeling of discomfort referable to the head, to discontinue his care of the room. On April 15th he still complained of headache, and on April 17th it was noticed that he was getting more and more stupid, and could be aroused only with difficulty. From that date he remained stupid, became delirious, and died May 23, 1881.

At the autopsy there was found general dryness and congestion of the brain. There was notable thickening of the pia mater around the sixth and the seventh nerves on the right side. There was aneurism of both vertebral arteries (about three-eighths of an inch in diameter) as they joined to become the basilar. There was a gummy growth surrounding the right vertebral artery, and thrombosis of the vessel below the aneurism. There was a gummy tumor, an inch in diameter, in the anterior lobe, pressing upon the middle cerebral artery on the right side. There was extensive softening in the temporal lobe on the left side. There was atrophy of the crico-arytenoideus muscle on the right side. Microscopically (Dr. W. H. Welch), gummata attached to the arteries were found in abundance throughout the brain. The liver contained a few gummy growths. The other organs were apparently normal.

Dr. Ripley referred to a peculiar grouping of symptoms in syphilitic cases; for instance, in an illustrative case there was paralysis of the right arm and the left leg, and in the case just reported there was paralysis of one muscle of the larynx and one ocular muscle. He thought that syphilitic paralysis in children could often be diagnosticated by this peculiar grouping of symptoms.

### SUPPURATIVE PERICYSTITIS.

Dr. Carpenter also presented a specimen removed from the body of a professional beggar aged sixty-six, who died in Bellevue Hospital. No history could be obtained. At autopsy there were found congenital phimosis, with balanitis, narrowed meatus urinarius (No. 8, American scale), dilated fossa navicularis, slight bar at the neck of the bladder, a bladder with hypertrophied walls and diminished calibre, dilated ureters, dilated pelves, surgical kidneys, and pericystitis. When the specimen was removed, and the inner surface of the bladder made tense, pus welled up from a multitude of small openings which communicated with suppurating cellular tissue in front and upon the sides of the bladder, and extended up the sheath of the right rectus muscle, and the question arose, whether the pericystitis was primary or secondary to the cystitis. Dr. Carpenter was of the opinion that it was secondary to, perhaps merely coincident with the cystitis, and that the condition of the bladder depended primarily upon the condition of the genito-urinary canal in front of it. One of his colleagues, however, expressed the opinion that the pericystitis was primary, and the cystitis secondary.

Dr. Ripley thought that extensive pericystitis was not likely to occur without some special cause, and that probably it was the secondary affection in this case.

The President thought that pericystitis was found almost exclusively in connection with some operation about the bladder, or some disease which had called for an operation. Whenever a permanent stricture existed, dilatation and hypertrophy of the bladder were quite sure to follow, and subsequently dilatation of the ureters, then dilatation and inflammation of the pelves of the kidneys, terminating, perhaps, in destruction of the entire kidney. In the specimen presented, if there was escape of pus from without into the bladder, it was hardly natural to suppose that consecutive dilatation of the ureters, with pyelitis or pyo-nephrosis, would occur. One could often explain dilatation of the bladder on the ground that there was a narrowed meatus, producing spasmodic contraction at the neck of the bladder. In the specimen presented there was undoubtedly an actual bar at the neck of the bladder, composed mostly of mucous membrane. In a large number of cases, where tight stricture existed in the deep portion of the urethra, with dilatation behind, and abscess formed there, the operation should not be simply to cut into the dilated part behind the stricture, but to do the operation for stone—entering the bladder behind the prostate—thus relieving all the surrounding tissues of the pus by which they might have become infiltrated.

Dr. Post referred to a case in which he assisted the late Dr. Gurdon Buck in an operation for removal of a vesical calculus, and the patient died of pericystitis.

### SARCOMA OF THE THIGH.

Dr. A. C. Post presented the thigh removed from a man aged forty years, a Scotchman, who had enjoyed good health until a short time before the appearance of the tumor. Two weeks before he first noticed the swelling, he received a fall while engaged in the amusement of curling upon the ice, but did not injure his thigh. There was no apparent connection between the fall and the development of the tumor, which he first noticed as a small swelling in the lower part of the thigh, in the early part of January, 1881, and it had increased rapidly in size until the operation. The tumor was soft, semifluctuating in its feel, and the sensation of fluctuation was such that, after the patient was upon the table and the tourniquet had been applied, some of his colleagues suggested it was a cyst containing fluid, and that it would be proper to make an explorative incision, which was done, and a considerable quantity of coagulated blood was found beneath the integument and fascia. Some of this material was examined under the microscope by Dr. L. A. Stimson, who expressed the positive opinion that it was organized tissue. Dr. Post then proceeded with the amputation. On examination, it was found that the growth was not primarily connected with the periosteum, but had developed in the muscular tissue of the thigh. It had, however, become somewhat adherent to the periosteum, and there were portions of

the bone which seemed to be bare. The tumor was about twelve centimetres long, and its circumference was somewhat greater than its length. The patient was doing well. There was no glandular enlargement in the groin. The stump was treated by Dr. Markoe's plan of through drainage. There was, apparently, union by first intention throughout, but afterward the edges of the wound separated, and there had also been a slight slough in two places. The patient's temperature had not been above 102° or 103° F., and this morning was about normal.

With reference to the case reported at the last meeting, Dr. Post remarked that there had been a proliferation at the extremity of the bone where it was amputated, and there was reason to apprehend that the disease had returned. That would have led him to propose exsection of the head of the bone, but he found that another tumor had developed, which made the case still more alarming, namely, a small growth upon one of the ribs. The patient's general condition, however, had improved since the amputation.

The President remarked that there seemed to be some organized tissue in the specimen presented by Dr. Post, in which a clot had formed, but the microscopical examination had not yet been completed. It was a question whether it was fibrous thickening with hemorrhage, or sarcoma with hemorrhage into it. He did not regard it as malignant in the sense of being carcinomatous.

Dr. Ripley remarked that fibroma would not occasion secondary deposits.

### NASAL POLYPUS (?)

Dr. D. Bryson Delavan presented a microscopic section made from a tumor removed from the nose of a boy aged fourteen years, who, so far as he was able to discover, was in good health. The tumor was about the size of a raspberry, had a dark color and uneven surface, and was attached to the right side of the nasal septum, by a well-defined pedicle about three-fourths of an inch from the nasal orifice. The boy first noticed it three months ago, but doubtless it had had a greater duration. It grew rather rapidly, and, as a result, respiration through the right nostril became more and more impeded. It was attended with some soreness, and with frequent but small hemorrhages. Dr. Delavan placed a wire snare around the pedicle, expecting to remove the tumor rapidly, but the tissue proved to be so dense that it could not be completely divided with the wire, and the operation was completed with scissors. The growth was not an ordinary nasal polypus, but belonged to a rather rare variety, of which Dr. Delavan had seen only one previously, and that was highly vascular, and gave rise to profuse hemorrhages.

The specimen presented was covered with epithelium, such as found upon the skin, a distinct stroma of connective tissue holding a large number of lymphoid cells, and a large number of blood-vessels with very thin walls, apparently sinuses. [A more complete description will be given hereafter].

Dr. J. H. Ripley presented a specimen illustrating

### CONCENTRIC HYPERTROPHY OF THE LEFT VENTRICLE; DISEASE OF THE AORTIC AND MITRAL VALVES.

It was accompanied by the following history: A. P——, twenty-four years of age, born in Hungary, single, and by trade a blacksmith, was admitted into St. Francis' Hospital, May 6, 1881. No hereditary disease in the family. The patient always enjoyed good health until two years ago, when he began to suffer from chronic rheumatism, affecting chiefly the elbows and feet. It was never sufficiently severe to prevent him from working. He had never had syphilis. Early in April last he complained of shortness of breath after slight exertion, and of pain in the precordial region. On the 20th of the same month he was suddenly seized with "a tearing pain" in the cardiac region, which was immediately followed by a dry cough, palpitation of the heart, and great dyspnœa. These symptoms, although modified, continued up to the time of his admission, when, in addition to these, he had œdema of the lower extremities, and was subject to frequent attacks of vertigo.

An examination of his chest soon after he entered the hospital gave the following physical signs:

*Heart.*—The area of cardiac impulse was increased. The apex-beat, of unusual force and of a heaving character, was seen and felt directly under and one and one-half inch below the left nipple. A strong, superficial thrill was felt during systole in the second intercostal space near the sternum on the right side. The area of cardiac dulness was increased both to the right and to the left. A loud, whizzing systolic murmur, with its maximum intensity at the right of the sternum in the second intercostal space, was heard all over the chest and with great distinctness behind on both sides, it being particularly loud in the right intrascapular region. A second systolic murmur, of a blowing quality, was heard with greatest intensity at the apex, but could be traced around to the left, and was distinctly audible near the lower border of the scapula. A feeble diastolic murmur was also recognized at the xiphoid cartilage.

*Lungs.*—There was flatness at the base of each lung, as well as entire loss of the respiratory murmur. A slight friction-sound was heard in the left axillary region.

*Diagnosis.*—Cardiac hypertrophy with aortic insufficiency and stenosis and mitral insufficiency; double hydrothorax. It was also thought, from the history, that there was present some acute endocarditis.

The condition of the patient grew rapidly worse; great œdema of the lower extremities supervened, and orthopnœa and dyspnœa hastened exhaustion. He died May 25th, nineteen days after entering the hospital.

*Autopsy* by Dr. E. C. Wendt.—Pericardial sac extended from the junction of the costal cartilage with the sixth rib on the left side to the mammary line on the right side. The pleural cavities contained about twelve ounces of clear fluid; the abdominal cavity also contained a small amount; about eight ounces of serum, holding whitish flakes, were found in the pericardial sac. The right ventricle was much dilated. The left ventricle was markedly hypertrophied—the hypertrophy being of the concentric variety. The mitral valve was thickened, and the distance from the attached to the free border one-fourth of an inch. The aortic orifice showed considerable stenosis and malformation, due probably to cicatricial contraction of the semilunar valves. A broad band of fibrous tissue extended across the aortic orifice below the attached border of the semilunar valves. The pulmonary semilunar valves and the tricuspid valves were normal. The liver was large and hyperæmic. The kidneys were normal. The spleen was enlarged and softened. The lungs were generally œdematous. The heart weighed twenty-eight ounces. Its left ventricular wall was fifteen

lines in thickness (the weight and measurement were taken nearly two weeks after the autopsy was made).

Dr. Ripley remarked that the special point of interest in the specimen was the concentric hypertrophy. A great many observers had denied the existence of such a condition. There were some, however, who acknowledged that concentric cardiac hypertrophy could exist, but he was not aware that a case of that kind had ever been recorded.

At the autopsy, the left ventricle in the specimen presented was filled with water, and found to hold about one ounce. Two days ago he closed the incision made through its wall, and then filled the cavity of the left ventricle with melted wax, allowed it to cool, then removed the mass, remelted and measured it, and found that there were eight and one-half drachms. That the wall of the left ventricle was exceptionally hypertrophied, and the cavity unusually small, was apparent.

Another interesting point was the existence of a bar across the bases of the valves, which probably gave rise to the peculiar thrill noticed during life. The cardiac muscle had been examined microscopically, and found to be normal.

Dr. Ripley thought that the obstruction to the outflow of blood must have existed for a long time, and that the regurgitation at the aortic, and also the mitral orifice, had had only a short duration. On that ground could be explained the large amount of concentric hypertrophy without dilatation.

Dr. W. M. Carpenter asked whether the heart was found in systole or diastole at the autopsy.

Dr. Wendt replied that it was found in systole.

The President remarked that it had been stated that cardiac hypertrophy without dilatation did not exist.

Dr. Ripley replied there were many who believed that it existed; for instance, Rokitansky, Skoda, Wendt, and others; and it seemed to him that there was quite as much danger of going to the other extreme and regarding the diminution in size of the ventricular as always due to contraction, as there was of making the mistake in regarding it as due to concentric cardiac hypertrophy.

It was not often that a cavity such as existed in the left ventricle of the heart presented was seen; and at autopsy it was exceedingly rare to find the heart in systole. Why was it so?

Dr. Peabody said that one reason why the heart was not found more frequently in systole at autopsy, was because relaxation incident to post-mortem changes had taken place before the examination was made.

Dr. Wendt said that several hours elapsed between death and the autopsy in Dr. Ripley's case.

Dr. Peabody thought that the condition of the heart presented was one which could be explained naturally upon the supposition that death occurred during cardiac systole. It did not seem to him that the cavity of the left ventricle was at all smaller than was frequently found at autopsy. That there was marked hypertrophy was evident, but he took issue with the statement that it was an illustration of concentric hypertrophy. He thought that it was a case of simple hypertrophy.

Dr. Ripley remarked that, according to the measurements made by Dr. Wendt and himself, the cavity of the left ventricle did not contain one-half as much as it should.

Dr. Peabody asked Dr. Ripley if he meant to say that the cavity should hold more than one ounce of fluid.

Dr. Ripley thought it should.

The President remarked that he had seen, within two weeks, a contracted heart, the left ventricle of which would not have contained more than a tablespoonful. He did not wish to state that such a condition as concentric cardiac hypertrophy without dilatation did not exist, but simply that it had been claimed, by those who had had large opportunities for operation, that hypertrophy did not exist without dilatation. Perhaps, to a certain extent, the question could not be decided.

Dr. Peabody thought that the walls of an empty heart, as situated in the body, were in contact absolutely; and that when it was opened and again sewed up, the cavities might contain half an ounce or two ounces.

Dr. Post asked if it was not fair to infer that the quantity of fluid poured into the ventricle would not nearly correspond to the quantity of blood which it contained.

Dr. Wendt said, not when the heart is in systole.

The President suggested that the question could be solved by immediately freezing a heart removed in positive systole and then making sections.

Dr. Ripley remarked that he was not speaking of the ventricular cavity when the heart laid upon its side, or as it was after it had been distended with water. No force had been used in filling the cavity. If dilatation had preceded the cavity should have contained several ounces; but, instead, the quantity was less than that contained by a normal heart.

### MULTIPLE UTERINE FIBROIDS.

Dr. E. C. Wendt presented the uterus removed from the body of a woman, aged twenty-six, who was admitted to St. Francis' Hospital, with the history of acute pleuritis with effusion, and was also menstruating. She had been married two weeks. She died on the day following her admission.

At the autopsy, made twenty-four hours after death, the lesions of acute purulent pleuritis were found. The mucous membrane of the uterus presented the usual thickening seen during menstruation, and it was reddish and succulent. In addition, there was found a polypus attached to the fundus by a distinct pedicle, and extending downward nearly to the internal os. There were, also, several subperitoneal and intramural fibroids, some of which were, apparently, undergoing calcareous degeneration. The line of demarcation between the cervix and the body was very distinct. There was a corpus luteum on the right side, in what appeared to be an excrescence projecting from the substance of the ovary; and there was corpus luteum in the left ovary of about the same size and appearance. The largest of the fibroids was of about the size of a hazel-nut.

Dr. Post doubted the existence of intramural tumors in the specimen.

### DOUBLE OVARIAN CYST.

Dr. B. A. Watson presented the uterus and its addenda removed from the body of Mina Miller, who was murdered in Guttenberg, N. J. It had been supposed that she was pregnant, but examination revealed no change in the uterus. There were two ovarian cysts, one upon each side, which were presented.

The society then went into executive session.

*Stated Meeting, June* 22, 1881.

DR. T. E. SATTERTHWAITE, PRESIDENT, IN THE CHAIR.

DR. A. B. JUDSON presented, on behalf of a candidate, a specimen of tubal pregnancy.

DR. H. N. HEINEMAN presented, on behalf of a candidate, a specimen of aneurism of the arch of the aorta.

NEUROMA—REMOVAL—SPLICING THE NERVE.

DR. F. LANGE presented a patient who had a neuroma of the brachial nerve just where it left the axilla. The tumor was removed, and by the operation the continuity of the nerve was interfered with to the extent of four inches. In accordance with the method suggested and practised by Gluck, of Berlin, he implanted, seventeen days ago, four and one-half inches of the sciatic nerve of a dog. The wound healed by first intention. Whether the case would be a success so far as restoration of nerve-function was concerned, he was unable as yet to say. Dr. Lange directed especial attention to the fact that the sciatic nerve of the dog, although the animal used was a large one, did not correspond in size with the excised nerve—it was considerably smaller. He thought that it was important to ascertain the relation, with reference to size, between the nerves of man and animals, in order that it might be determined from what species of animals nerves of the proper size might be derived for this purpose. The tumor had the appearance of a fibro-sarcoma, but the examination had not been completed.

DR. RIPLEY asked if the splice was made for the purpose of restoring nerve-function.

DR. LANGE said that it was, and that Gluck had been so successful that within a short time the function of conductibility had been restored, which he regarded as exceptional after dividing nerves, and especially after the removal of long pieces of nerves.

DR. RIPLEY remarked that the ulnar nerve had been divided, a considerable portion removed, and the conductibility had been restored. The operation was performed by Dr. Howe. Had the question been settled as to how much of a nerve might be lost and yet its function be restored?

DR. LANGE said that an inch of the trigeminus had been removed, and the function of the nerve was subsequently restored.

DR. HOWE said that, in the case to which Dr. Ripley had referred, a considerable portion of the ulnar nerve was removed, which was followed by complete loss of sensation for three months after the operation, and then it began to return, and at the end of a year sensation in the parts supplied by the ulnar nerve was good. He thought the ends of the nerve had not united, because of the amount of nerve removed and the quantity of cicatricial tissue developed at the site of the operation.

DR. T. R. CHAMBERS presented a specimen of

SUBCLAVIAN ANEURISM TREATED BY NEEDLING AND GALVANO-PUNCTURE,

accompanied with the following history: Andrew J. Wyatt, United States, aged fifty-three, married, printer. Inheritance and habits good. No syphilis. Rheumatism, one attack lasting one month in ankles, occurring twenty years ago. The first symptoms of aneurism began three years ago with pain in the little finger of his left hand, and gradually extended into the arm and whole upper extremity. In January, 1880, the subclavian aneurism had become a prominent tumor upon the left side of the neck. It had visible pulsation, thrill and bruit. The pain was chiefly referred to the upper extremity, scarcely any in the tumor itself. At times large quantities of morphine were required, and occasionally his mental disquietude required the addition of a mixture of chloral and camphor, equal parts. This proved of great service for a disturbed sleep, and calmed his maniacal tendencies. Dr. Weir examined the patient and found a continuous bruit across the manubrium, which did not seem to be cardiac, and which, taken with the patient's complaint of pain in the cervico-dorsal spine, led him to suspect dilatation of the arch. The cardiac physical signs failed to reveal any pathological changes. The tracing of the left radial pulse, obtained with great difficulty on account of the smallness of the current, yielded the usual wavy descent found with obstruction along the course of an artery. In March there was œdema of the left upper extremity, as well as of both ankles, and the consumption of morphine had reached the enormous quantity of 30 ctgr. in a single day. On March 30th he had a sudden attack of dyspnœa, and for two weeks was compelled by weakness to remain in his chair, being unable to walk, and dorsal decubitus was uncomfortable. On April 23d he had a chill, fever, and abdominal pain and swelling. The same symptoms were repeated May 31st, when the abdominal swelling assumed quite an extensive size, required surgical interference to evacuate a cupful of pus, and the diagnosis, confirmed at the autopsy, was abscess of abdominal wall.

In October last a plaster cast was taken of the shoulders and neck and a large external tumor rising above the left clavicle, between it and the trapezius behind, bounded externally by the acromial end of the clavicle and rising internally almost to the border of the inferior maxilla. There were at no time symptoms of pressure upon the trachea or carotid, and only those of pressure upon the nerves of the left cervical plexus and veins of the same region, together with a diminished blood-supply.

October 8th.—The aneurism had slightly increased in size, and showed tendency to pointing. The patient wished to try anything to terminate his sufferings.

*Needling.*—Six milliner's needles, 4.5 ctm. long, were introduced, and on the next day nine more were inserted into the tumor, care being taken to avoid the direct current. Some of the needles gave slight pain on piercing the skin, others none. After remaining imbedded in the tumor for six days, and a drop or two of pus appearing about the punctures, the needles were removed, and there was no apparent change in the aneurism.

October 24th.—There was visible pulsation and expansion in every available part of the tumor. A thrill was felt posteriorly adjacent to the neck, and a distinct bruit heard everywhere, especially over the region of the thrill. The current approached the surface in several places, and very threateningly at places of pouting.

*Galvano-puncture.*—With the kind advice and assistance of Dr. E. Evetzky and Dr. G. L. Knapp, galvano-puncture was resorted to. The apparatus employed was a Stöhrer's battery of twenty-one cells; a rheostat by which the intensity of the current could be gradually raised or lowered between a single couple and the full strength; six milliner's needles, 8 ctm. long, with their points changed to sharp, flattened spear-heads, and insulated by collodion. This coating increased their size from No. 2 to No. 4 French. Three centimetres of polished

steel was to be exposed in the tumor. This coating proved a most handsome and effective insulation.

*First seance.*—The patient being etherized, two needles were inserted parallel to each other, 2 ctm. apart. A strong galvanic current was passed through them and the poles alternated every five to eight minutes. They remained inserted for about forty-five minutes, and were withdrawn when a peculiar black-and blue appearance of the whole upper extremity was noticed. On removal, one of the needles had entirely lost its exposed steel; it had been utterly consumed, not broken off, an accident which has happened to some experimenters. The other needle was rough, black, and thinned. With their removal was an escape of gas and tarry fluid. The patient passed quietly out of the etherization and a slight change in the tumor was observed; the thrill was diminished and there was beneath one of the punctures a seeming condensation of the tumor's contents.

*Second seance.*—Since the first seance, four days ago, there has been no change in the tumor nor in the patient's condition, which is good. The patient was etherized with difficulty. A current of twenty-one cells was passed for forty minutes through two needles inserted as before. Within five minutes a scarlatinoid rash appears on the left shoulder and upper extremity. This gradually darkens and becomes black and blue, in irregular patches. The thrill disappeared. On withdrawing one of the needles a subcutaneous hemorrhage occurred, forming a secondary tumor quite as large as the aneurism. Pressure finally controlled it. After fifteen minutes' interval, two fresh needles were introduced in other places near the thin parts of the sac, and the current passed as previously, alternating every five or eight minutes, for forty minutes. On withdrawing one of the needles a bright arterial stream spurted out of the puncture, which, however, was soon controlled by pressure.

He failed to come out of the etherization, but went into a state of coma, out of which he partly emerged two days later, but with external strabismus, almost constant nausea and vomiting, and for four days severe headache, and loss of vision even to light. The black and mottled appearance of the arm gradually disappeared at the end of a week, and blebs, which had formed upon the palmar surfaces of the second and ring fingers, gradually dried up after two weeks. There were ecchymotic spots scattered over the hand and arm, which also disappeared.

On March 6th the tumor had attained to the size of a baby's head, and had three places of pouting where the sac-wall was scarcely as thick as paper. For the past fortnight the pain in the tumor had become very severe; it had formerly been confined to the shoulder, arm, and hand. The body was constantly bathed in perspiration, the mind wandered, vision was completely lost, hearing was very acute, and he refused to swallow any nourishment lest in the effort the aneurism would burst, and at 2 A.M. the upper place of pouting gave way while patient was at stool. The blood squirted across the room and struck the opposite wall. Oozing continued four hours, notwithstanding the pressure applied.

On March 9th a second rupture occurred from another place of pouting, and oozing lasted for half an hour.

On March 10th a third hemorrhage from a reopening of the upper place of pouting occurred, and it required digital pressure for an hour and a half to stop it.

March 14th, 12.30 A.M.—Patient was drawn up in bed for half an hour by the agonizing pain in tumor, when suddenly his pain was relieved and he died quietly with a slit two centimetres long in the upper and anterior part of the tumor.

*Autopsy*, made twelve hours after death.—*Body not* emaciated. Features placid. No œdema. There is a depression in the left suprascapular region, where the tumor had existed. The left upper extremity was atrophied.

*Abdomen.*—The subcutaneous adipose tissue was abundant. The muscular layers on the right of the median line, where the umbilical tumor* had presented, were thinned. The peritoneum had adhesions over a surface an inch square anteriorly over the right lobe of the liver; *none elsewhere.* There was injection and slight thickening, for a space the size of the palm of the hand, at the site of the abscess in the right lumbar region. The *vermiform appendix* not abnormal. *Intestines* the same.

*Thorax*, no adhesions. There were no signs of pressure having existed in the region of the aortic arch, upon the sternum or the spine. *Heart* in normal position, small, firmly contracted, hard, anæmic. *No hypertrophy.* The left ventricular wall seemed thinner than it should be. Muscular tissue brown. Aortic valves slightly atheromatous and thickened.

*Kidneys* both nearly of normal size. Capsules not adherent. Slight increase of connective tissue in cortex.

*Spleen* not abnormal.

*Liver* slightly large, slightly fatty.

*Aorta.*—Immediately upon leaving the valves it was greatly dilated in circumference and length throughout. Its lining membrane had numerous elevations and depressions, indurations and scars, and there was scarcely any normal appearance. There were ulcers of recent endarteritis and cicatrices. The openings of the innominate, left carotid, and subclavian, and of the descending aorta, were enlarged and atheromatous. The descending aorta was normal, except at its commencement. There was a branch given off just below the innominate artery, which probably supplied the collateral circulation to the left upper extremity. The branches were all given off near the descending aorta, the dilatation being more extensive between the aortic valves and the innominate than elsewhere.

*The subclavian artery* was given off just above the aortic opening. For 8 ctm. it was irregularly dilated and atheromatous; had two or three very small branches and blind pouches, and emptied by a constricted ring into the *subclavian aneurism*, a pear-shaped tumor about 13 ctm. long and 9 ctm. wide at its base. It extended, when distended, from the inferior maxilla to the second rib, lying upon it and the first, which was included in its cavity, and in close apposition with the carotid artery and side of the neck. Behind, it pressed upon the cervical plexus. Externally it pressed upon the scapula and clavicle, and anteriorly upon the clavicle, which was also included for 4 ctm. distance. Both the first rib and clavicle were eroded. The sac itself was thin in places, elsewhere being strengthened by laminated blood-clots. The six punctures of the galvanic needles were readily seen, and one was in the centre of a black infiltration 1 ctm. square. There did not seem to be any connection between the blood-clots and the punctures. There were a number of dark clots adhering to the sides, which were washed off by a gentle stream of

* Reported in the New York Medical Journal, December, 1880.

water. The fatal rupture did not start from a puncture. There were a few small arterial twigs given off, and the axillary was but the size of a lead of a pencil. There were no vestiges of the previous needling operation.

*Remarks.*—This case had interest for a number of reasons. The rarity of subclavian aneurism on the left side; the long duration of the disease in its advanced condition—for the patient carried a pulsating tumor the size of an orange on the side of the neck, for two years and a half; then, a fortnight before death, its size was that of a child's head. Three hemorrhages through openings in the sac occurred during the last week before fatal rupture. The strange sequences of the galvano-puncture operation—were they sequences of the etherization, or was it blood-poison?—the clot probably being formed at one pole, to be broken up again when the current was alternated, and thus throwing, by the two seances, a large quantity of foreign matter upon the circulation? Or was it due to renal disease? The urine, examined carefully, never contained but a faint trace of albumen. The autopsy revealed a second aneurism of the arch, with extensive ulcerative endarteritis of the same; confirmed the diagnosis that the iliac abscess was confined to the abdominal wall, and showed that, notwithstanding the immense obstruction to the circulation by the two aneurisms, the heart was not hypertrophied, nor was there insufficiency of the valves.

Galvano-puncture, for the cure of intra- or extra-thoracic aneurisms, has scarcely had a trial in this country. In Europe it has had careful study. The first cure reported was that of Petrequin, in 1845, of a temporal aneurism. Then followed a number of failures, and the Italian Commission formed at this time were very sceptical. In 1846 Ciniselli tried it for the cure of aneurisms of the aorta. England, Germany, and France have had many of its students, and especially valuable have been the results obtained by Dujardin Beaumetz and his pupil, Dr. Laurent Robin.

Robin says: 1. It is scientific and rational, and yields practically good results. 2. It is the best of the therapeutical agents employed thus far, for it determines in an aneurismal sac the formation of a clot susceptible of organization. 3. The positive pole alone should be introduced into the tumor, to obtain a firm and resistent clot. 4. This mode of treatment, employed with all the precautions pointed out in his work,* is devoid of all fear of emboli, hemorrhage, suppuration, gangrene, or of a single unpleasant accident. Invariably it procures relief, even in desperate cases.

An old idea was that coagulation was due to inflammation of the sac surrounding the punctures; another that the electric current itself was the cause. [Dr. Smee ("Royal Soc. Trans., 1863") passed oxygen and hydrogen through an albuminous fluid and obtained a substance called fibrin.] Robin is certain that it is due to the chloride of iron and acid formation of the positive pole. It is the general agreement that the gelatinous froth of the negative pole does not tend to organization. The operation is painful, which is relieved by etherization. The gas formed during the operation is never sufficient to embarrass the patient. The needle-punctures may be so small there need be no fear of hemorrhage, especially if pressure can be applied. The current should not be less than about twenty-one cells of a Gaiffe, Bunsen or Stöhrer battery. It should gradually be increased from zero to the greatest intensity, and *vice versa*. It should be continued about five minutes upon one needle, then upon another inserted a short distance off, and so on upon several. It should *not* be alternated. When the two poles upon two needles are introduced, the action is more energetic, and the clot is formed more rapidly, but it is imperfect and feeble. No clot is formed by the negative needle, but that of the positive is solid, resistent, and adherent. It seems plausible that, in the case just cited, the induration within the tumor was changed, when the current was alternated, from consistency to a frothy, gelatinous, and easily removable matter. Perhaps so much foreign substance thrown suddenly into the circulation was the primary cause of all the peculiar phenomena of central disturbances following the second seance.

Robin thinks the clot due solely to chemical changes, and suggests always using iron or steel needles, rather than platina, zinc, or silver, the chloride of iron and acid formation at the positive pole being the prime factors. The clot, he says, "is coagulation of albumen, solidification of fibrin, and exudation of plastic lymph."

With regard to the apparatus, it is necessary to have such as a Gaiffe or Stöhrer battery of about twenty-one small elements. Such have the least amount of thermic action and the greatest intensity—electro-chemically decomposing and destroying. The battery of large surface elements is useful in galvano-cautery, the smaller in coagulating and dissolving, according as the positive or negative pole be used.

An extensive bibliography of the subject may be found in Robin's work.

The statistics of the operation are easily summarized. Amelioration refers to lessening of the pulsation, arrest in development of the tumor, relief of pain, partial or complete, and dispersion of the dyspnœa. In most of the cases, probably there was but one seance; in others, it was repeated, even a dozen times.

| | No. of Cases. | Observers. | | Amelioration. | Success. | Failure. |
|---|---|---|---|---|---|---|
| Hospitals of Paris ..... | 12 | 7 | Aortic. 12 | 12 | | (Alternation of poles.) |
| 1846 to 1868 ... | 21 | French. Others than French. | 21 | 8 | 5 | 13 |
| 1870 to 1879... | 22 | | ..... | 7 | 11 | 4 |
| M. L. H. Petit: *British Medical Journal*, Sept., 1880. | 114 | ..... | Intra-thoracic. ..... Extra-thoracic. ..... | | 30 | 7 |
| | | | | | 36 | 1 |
| Duncan: *Brit. Med. Jour.*, 1876. | 37 | | Aortic. 37 | | Complete cure. 6 | Uninsulated needles. 3 |
| | 13 | | Inom. carotid & subclav. 13 | | 3 | 6 |
| | 2 | | External iliac. 2 | | 1 | |
| | 20 | | Femoral popliteal humeral. 20 | | 13 | 3 |
| | 8 | | Small vessels. 8 | | 6 | |
| Total ..... | 79 | | | | 31 | 12 |
| Grand Total. | 348 | | | 22 | 142 | 49 |

The figures opposite amelioration might be much larger, but are omitted in many cases.

* De l'électro-ponction dans la cure des anévrysmes intra-thoraciques. 1860.

Comparing it with ligation (Norris's table of ligatures) with 33.1 per cent. of death, galvanism had but 12.9 per cent., and this with the bad success of Ciniselli. Hutchinson in 1856 compared it with compression and found 25 per cent. success and 29 per cent. failure in compression; 24 per cent. success and 30 per cent. failure in galvanism.

SYPHILITIC MENINGITIS—DIFFUSE CHANGES IN THE SPINAL CORD—CYSTITIS AND PYELITIS.

DR. WM. H. PORTER presented a specimen with the following history:

W. M., aged fifty-nine, married, and a druggist, was admitted to the Presbyterian Hospital, December 18, 1880. Twenty years previously he had contracted a chancre, and secondary symptoms followed. His habits were temperate as regards alcohol, and his general health had seemed good, notwithstanding his syphilitic infection. The first serious trouble that he had, dated back three months before his admission. At that time he fell down-stairs, striking upon his head, and was unconcious for several hours, but recovered promptly and had no further unpleasant symptoms until a week before admission, when retention of urine caused him to call a physician.

On admission to the hospital his temperature was 102° F. and pulse 120. When standing he was dizzy if the eyes were closed, and his walk was ataxic. No paralysis of any muscles. Dynamometer showed no difference in hands. No pain, but rather cutaneous anæsthesia. His speech was thick, and deafness increased gradually from the date of his attack. The pupils responded promptly and equally to light. His tongue was coated and breath offensive. The tibiæ were very tender. The average quantity of urine was twenty-two ounces, and microscopic examination showed pus in large quantities. The reaction strongly alkaline. His water was drawn three times daily, and the bladder was washed out with a dilute solution of nitric acid (acid. nitric. dilut., ℥j. to aqua ʒ j.) Potass. iodidi was given internally. On December 22d the patient lost control of his anal sphincters. On December 24th, patient developed hiccough. His temperature had fallen to normal, but pulse remained rapid. At 10.30 P.M. he fell into a comatose condition; temp. 101° F.; pulse, 100; respiration, 20. The kidneys continued to secrete water freely, but the catheter had still to be used. The coma gradually deepened, and he died at 9 o'clock A.M., December 25th.

*Necropsy*, December 26, 1880.—Two scars were observed on the penis, and a large copper-colored cicatrix existed just above the internal malleolus of one leg.

*Thoracic cavity.*—The heart weighed eleven ounces; substance did not appear abnormal. All the valves were thickened and exhibited clearly the usual lesions of endocarditis. The lungs were slightly adherent at the apices, at which point was the usual localized condensation of tissue found in connection with old pleuritic adhesions. Both organs congested and œdematous.

*Abdominal cavity.*—Spleen normal, both in weight and consistency. The stomach and intestines were not opened, as they did not indicate, externally, any noteworthy signs of morbid changes.

*Genito-urinary tract.*—These parts were specially interesting. The bladder showed evidence of cystitis, was sacculated and distended, containing at the examination 130 c.c. of milky-looking urine. Both ureters greatly dilated, the right especially. The pelves of both kidneys were dilated, the right containing pus. The mucous membrane red and dotted with ecchymotic spots. The whole superficies of the right organ was marked by small, yellowish, solid deposits of a cheesy appearance. On microscopic examination these collections were found composed of rounded corpuscles resembling leucocytes, with an admixture of molecular debris and oily matter. The liver weighed fifty-six ounces, and showed no special evidence of disease.

On removing the calvarium, an excess of serous fluid escaped, and all the vessels of the meninges were found unduly distended with blood. Some difficulty occurred in removing the bone, because it was firmly adherent through the dura, with the pia mater. These membranes were also abnormally thickened and opaque in patches, most noticeable at the base and in the Sylvian fissures. Further, the brain-substance was more than usually vascularized, the left lobe of the cerebellum and the medulla showing this condition most prominently.

In removing the cord the pia mater was found noticeably thickened. In addition, the microscope showed that there was an extension, inwardly from the pia, of newly formed connective tissue, while the vessels were contracted, hypertrophied as to their coats, and distended with blood. In many places there was a diffuse collection of leucocytes in the contiguous tissue. Two pathological conditions were especially noteworthy: one the disseminated foci in the right kidney, and the other the vascular changes in the cord. The former were probably gummata, the latter a hyaline change in the muscles, possibly amyloid, and due to syphilis. The case was specially interesting in connection with the present interest in syphilitic lesions of vessels. Sections from the cord, when compared with others, showed a marked thickening of the vessels and interstitial tissue. The thickening of the vessels and general sclerosis seemed to be the only way in which the partial paralysis and lesions of the genito-tract could be explained. A number of observers have noticed and recorded a similar thickening of the cerebral vessels.

DR. GEORGE L. PEABODY presented a specimen of

ULCERATIVE ENDOCARDITIS,

with the following history:

E. W. C., aged twenty-three years, native of the United States, bookbinder, was admitted to the New York Hospital, April 20, 1881. His mother died of consumption. No history of venereal disease or of articular rheumatism. He was perfectly well up to three weeks ago, when, upon returning from New Orleans, he had a chill followed by fever, sweating and great prostration. Four days later he had a second chill of similar nature. These symptoms were followed by great prostration, emaciation, and feebleness, anorexia, and general stiffness in joints. He has had slight cough, and on two occasions noticed dark, clotted blood in the sputa. No pain in the chest or præcordium, and no shortness of breath. No night-sweats or swelling of feet; urine highly colored; bowels regular.

*On admission.*—Pulse, 100; respiration 24; temperature 103.6° F. Emaciated; very anæmic; skin hot, dry, sallow; no eruption; some tenderness and pain in knees and ankles, and also in legs; no œdema; tongue thickly coated and moist; pulse soft and compressible; examination of lungs negative; a loud double murmur was heard over the apex of the heart; apex-beat displaced below and outward. He was put upon salicylic acid, gr. xv.

every two hours. Subsequently Bland's pills were given; urine normal. For a week his symptoms did not change, his temperature varying between 101° and 104° F., there being always an evening exacerbation.

April 29th.—He complains of pain in the precordial region, with dyspnœa and palpitation. Has emaciated rapidly. Salicylic acid was discontinued, and he was given quinine and quebracho. His joints remained painful and tender, and now became swollen, but never red. The area of precordial dulness increased toward the left. There was no precordial sound.

May 3d.—Coughed much last night, and this morning has viscid expectoration, with blood-streaks. Has had no chills since admission. Temperature is unchanged. Sibilant and sonorous râles heard over both lungs, with a few râles behind, low down.

May 5th.—Tubular breathing and other signs of consolidation were noticeable from apex of right lung to nipple line. He was much prostrated, and losing ground every day. He was freely stimulated without benefit, and continued steadily sinking, with temperature elevated as before, until May 21st, when he died at 5.30 A.M. The heart-murmurs remained unchanged.

*Autopsy*, May 21st.—There were 250 c.c. of serum in the pericardium, but the object of chief interest was the heart. The posterior segment of the mitral valves had an enormous mass of recent vegetation adherent to it, causing it to appear rather more than a centimetre in thickness. The anterior segment was in a similar condition, but less thickened. On removing some of this mass the valve was seen below, deeply ulcerated. The chordæ tendineæ were many of them entirely eroded. The left ventricle was somewhat dilated. In both lungs there were extensive areas of catarrhal pneumonia. There was nothing else in the autopsy bearing upon the clinical features of the case. The microscopic examination of liver, kidneys, and lungs revealed no micrococci. He was inclined to regard the case as one of ulcerative endocarditis, in which the character of the symptoms was typhoid rather than septic. Like many of the cases already recorded, this one was associated with pneumonia, and, unlike many of them, it was associated with rheumatism. The rheumatism, however, did not develop until after the chills and fever, which ushered in the endocarditis.

Dr. Peabody also presented a specimen of beginning

ANEURISM OF THE HEART,

which was removed from the body of a man seventy-nine years of age. The aneurism was situated in the apex, its favorite location; the man suffered from dyspnœa and palpitation, and died suddenly.

Dr. Peabody also presented a specimen of

PRIMARY CANCER OF THE LIVER,

removed from the body of a woman fifty-seven years of age, who had given a distinct history of pain in the hepatic region during the last eighteen months; but there was no tumefaction in that region. The gastric symptoms were slight. The liver was not increased in size. The cancerous deposits were chiefly in the interior of the organ. The stomach was normal. The only secondary deposit was in the mesenteric glands.

Toward the close of life there was marked jaundice. No centre of infection in any of the large biliary passages.

Dr. V. P. Gibney presented a child, five weeks old, with

CONGENITAL DISLOCATION (?) OF THE LEFT TESTICLE.

It was without history. There was no body in the left side of the scrotum, but above and toward the perineum a body with cord attached could be distinctly felt.

Dr. A. Jacobi remarked that the left half of the scrotum was smaller than the right—did not seem so well developed. The testicle was perhaps a little larger than normal, and it seemed to be attached laterally, probably by inflammatory processes, intra-uterine, and therefore not suspended in the scrotum. If his explanation was correct, it would show that the scrotum ceased to grow as soon as the inflammatory process took place.

Dr. Lange thought there was some effusion around the body, and that it was not adherent.

CYSTO-SARCOMA (?) OF THE BREAST.

Dr. A. Jacobi presented a tumor removed from the left breast of a girl sixteen years of age. Probably it was of old standing. He presented it on account of its size. It weighed 545 grammes. There was no history of malignant disease in the family. The mass contained a number of cysts, and had the gross appearance of cysto-sarcoma.

Dr. Heineman presented specimens and microscopic slides of three cases of

TUBERCULAR PERICARDITIS.

The first was a large transverse section of the parietal and visceral pericardium and heart-wall, prepared by Professor F. Delafield, who obtained the specimen from the body of an old man, who died of chronic dysentery. The disease was not suspected during life.

The second consisted of the microscopic slides from specimens obtained at an autopsy made by Dr. T. Mitchell Prudden, on the body of a middle-aged man, whodied of chronic Bright's disease. A few old caseous nodules were found in the lungs. In this case also the disease was likewise not suspected during life.

The third was a heart, which was accompanied with the following history:

A. S., aged forty-two, born in Germany, single, and a fireman, was admitted to the Roosevelt Hospital December 7, 1879. His family history was good, and he denied syphilis and rheumatism. He had been a moderate drinker. Except for a slight attack of jaundice, six years previously, he had been well up to two weeks before admission, when, after exposure, he was seized, without a chill or other constitutional disturbance, with cough and mucopurulent expectoration. At the end of a week he was compelled to cease work, and he then suffered from loss of appetite and abdominal cramps, and, a few days later, from dyspnœa, cardiac palpitation, and weakness.

Upon admission he was well nourished, his appetite was good, and he had moderate cough, with expectoration and much dyspnœa. Examination revealed evidence of fluid in right pleural cavity and increased area of hepatic dulness. Urine, 1030, acid, with a trace of albumen. From December 8th to December 31st his temperature ranged between normal and 102° F. The dyspnœa and the fluid in the pleural cavity gradually disappeared, and on January 7th he left the hospital, having gained strength and color, but having still some cough and weakness.

On March 31, 1880, he was readmitted, stating that, after exposure six weeks previously, his cough

grew worse, dyspnœa developed, his urine became scanty, and micturition frequent; his abdomen became swollen, and three days ago had œdema of the face, feet, and legs. He was able to work, and had a good appetite up to one week ago. Now he has a dull epigastric pain. Urine, 1030, with a trace of albumen. Dulness over the right chest. April 27th.—Has prolonged expiration over both apices, and friction-râles over both lungs. Has dyspnœa, slight cough, œdema of feet and legs, and is losing flesh and strength. In May, hectic, night-sweats, severe cough, inability to lie on left side, and headache followed. In June, hyaline casts and increase of albumen to fifty per cent. in the urine. On June 22d the apex-beat of the heart could not be made out; heart-sounds feeble, growing weaker. July 2d.—Pericardial friction could be felt by the visiting physician, and pericardial friction-sounds heard. A week later (July 9th) no friction-sounds could be heard, although the heart sounds were audible in the normal position, but loudest to the right of the sternum. July 10th he was delirious, and August 1st he had a convulsion, became comatose, and died.

During April his respiration varied from 24 to 36, and his temperature from 98½° to 100½° F. During May his temperature varied from 98½° to 102¾° F. During June his temperature was normal. During July his pulse varied from 72 to 144; respirations from 26 to 64, and temperature from 98° to 102° F., but was normal during the last week.

*Autopsy.*—Body emaciated.

*Brain.*—Pia mater much thickened, opaque, and adherent in places to the dura mater; increase of serum beneath it; lateral and third and fourth ventricles dilated, and contained increased quantity of serum. Upon the under surface of the brain, over anterior portion of anterior tip of temporal lobes were erosions of brain-substance, with yellowish gelatinous infiltration.

The tip of the temporal lobe, and the optic thalamus with its immediately adjacent tissue, appeared to be softened.

*Heart.*—Very great thickening, with adhesion throughout of visceral and parietal pericardium. The right and left ventricular cavities were reduced to less than half their normal size, with degenerated and atrophied walls. The mitral valves were somewhat thickened.

*Lungs.*—The costal and pulmonary pleuræ were enormously thickened and adherent throughout on both sides. Upon the left side the thickened pleura was nearly three-fourths of an inch thick, and had enclosed between its layers considerable lymph, gelatinous in appearance, and between the pleura and diaphragm a large quantity of flocculent serum. Fibrous nodules were scattered through both lungs.

*Liver* cirrhotic and increased in size.

*Spleen* much enlarged.

*Stomach.*—Chronic gastritis.

*Kidneys.*—Normal size; striations not well marked; appear fatty.

*Microscopic examination* in all of the three cases above referred to revealed giant-cells and tubercula granula in the visceral and parietal deposit, but not in the heart-muscle.

Reference was made to the recent editorial, in the London *Lancet* of May 28th, upon the subject. Whether tubercular pericarditis was a primary or a secondary lesion was a question which had not been decided. Tubercles were found in other organs of the body in Dr. Prudden's case and in his own, but in Dr. Delafield's case none were discovered.

Dr. Ripley suggested that the symptoms before the occurrence of the friction-sound might have been due to myocarditis.

Dr. Heineman remarked that the man had disease of the kidneys and also pleurisy, which would account for many of his symptoms; and besides, he had a normal temperature during June, while in April and May it varied from normal to 102° F. In June the heart-sounds were lost, and in July the pericardial friction-sound heard, and at the same time there was a rise in temperature, but during the last week in July it was again normal. So it would seem that the most prominent portion of the heart-lesion took place in July.

The presentation of the testimonial to Dr. George F. Shrady then took place, Dr. A. Jacobi representing the society, after which the society went into executive session.

# Correspondence.

## THE PROGRESS OF NEUROPATHOLOGY.

To the Editor of The Medical Record.

Dear Sir—In the instructive report of the Proceedings of the International Medical Congress, published in the Record for September 3d, no less than two papers are mentioned as read before the Section on Mental Diseases which, as reported, purport to establish certain facts in neuropathology, demonstrably anticipated on this side of the Atlantic. From the necessary brevity of your report, it is of course impossible to say whether the American observations were ignored or not, by those reading the papers referred to. Still I hope I may ask for space for the following statement of facts.

I. Dr. A. Foville is reported as discriminating between two forms of expansive delusions, each characterizing some special forms of insanity. In the January number of the *American Journal of Nervous and Mental Diseases* will be found an article on the subject of insane delusions, by myself, which distinctly sets forth each of the criteria claimed by Foville, and is in its conclusions identical with the paper of the latter, which was read eight months after mine was published.

II. Dr. Savage is stated to have rendered good service to pathology in drawing attention to the changes found in nerve-tissues after the action of alcohol on them. It is difficult to conceive that Dr. Savage, one of the editors of the *Journal of Mental Science*, could have overlooked the existence of the following papers, several of which were extensively noticed in the journal of which he is the editor:

*First.*—My paper on "Progressive Paresis" in the *American Journal of Nervous and Mental Diseases* for 1877, in which I said that "many authors have registered and even photographed the results of the reaction of absolute alcohol (leucin and cholesterin precipitates) as lesions characteristic of progressive paresis.

*Second.*—A paper on "Reform in Scientific Psychiatry," which attacks the character of the scientific or pseudo-scientific work done at Utica, on the basis of the same facts that Dr. Savage advances, in 1878.

*Third.*—A paper published in the same journal the year after, in which I offered to manufacture the lesions photographed at Utica, before the American Association of Asylum Superintendents or a committee of that body, and to do so in healthy animal brains.

*Fourth.*—A paper, published in the *Chicago Medical Review* for June 20, 1880, of which I send you a copy, and which contains a full explanation of the microscopical and chemical nature of the artificial precipitates, and the manner of their production; and which specifies the photographs taken at Utica and Oshkosh in which they are to be seen.

I write this less on my personal account than to show that American psychiatry was represented at the Congress, however unrecognized, and that the representation, such as it was, came without the asylum circle.

Respectfully, E. C. SPITZKA.

130 EAST FIFTIETH STREET, NEW YORK.

## ARMY NEWS.

*Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from September* 11, 1881, *to September* 17, 1881.

BROWN, P. R., Capt. and Asst. Surgeon. Granted leave of absence for one month. S. O. 210, A. G. O., September 13, 1881.

SKINNER, J. O., Capt. and Asst. Surgeon. To proceed to Fort Verde, A. T., and report to the Post Commander for duty as Post Surgeon. S. O. 101, Department of Arizona, September 2, 1881.

REED, WALTER, Capt. and Asst. Surgeon. Assigned to duty with Light Battery "A," Second Artillery, ordered to leave Washington Barracks, D. C., on September 20th and march to Yorktown, Va. S. O. 165, Department of the East, September 16, 1881.

BURTON, H. G., Capt. and Asst. Surgeon. To accompany Light Battery "C," Third Artillery, as medical officer, on its march from Fort Hamilton, N. Y., to Yorktown, Va., *via* Trenton, N. J., Philadelphia and Columbia, Pa., Baltimore, Md., and Washington, D. C.—and remain with it until further orders. S. O. 163, Department of the East, September 14, 1881.

## Medical Items and News.

CONTAGIOUS DISEASES — WEEKLY STATEMENT. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending September 17, 1881.

| Week Ending | Typhus Fever. | Typhoid Fever. | Scarlet Fever. | Cerebro spinal Meningitis. | Measles. | Diphtheria. | Small-pox. | Yellow Fever. |
|---|---|---|---|---|---|---|---|---|
| Sept. 10, 1881. | 0 | 33 | 73 | 8 | 9 | 63 | 14 | 0 |
| Sept. 17, 1881. | 0 | 28 | 43 | 5 | 7 | 58 | 9 | 0 |

EXAMINATION OF CANDIDATES FOR U. S. MARINE HOSPITAL SERVICE.—A board of surgeons for the examination of candidates for appointment in the Marine Hospital Service has been appointed to meet in this city on Monday, October 10th. Surgeons Long, Purviance, and Sawtelle have been detailed as members of the board. There are several vacancies in the grade of assistant surgeon, for which there are only a few applicants.

AN ALBANY DOCTOR, Dr. L. T. Merrill, absconded recently. He left a wife and child, as well as many creditors. Dr. Merrill had once been in good practice, but has gradually lost it through his dissipation.

FIGHTING THE QUACKS.—At a meeting of the Luzerne County Medical Society, at Wilkesbarre, Pa., September 14th, it was announced that thirty physicians out of one hundred and forty have not registered according to law. The secretary was instructed to present their names at once to the District Attorney, and to see that he takes such action in each case as the law requires.

OFFICIAL BULLETIN OF THE AUTOPSY ON THE BODY OF PRESIDENT GARFIELD.—The following official bulletin was prepared by the surgeons who have been in attendance upon the late President:

By previous arrangement a post-mortem examination of the body of President Garfield was made this afternoon, in the presence and with the assistance of Drs. Hamilton, Agnew, Bliss, Barnes, Woodward, Reyburn, Andrew H. Smith, of Elberon, and Acting Assistant Surgeon D. S. Lamb, of the Army Medical Museum of Washington. The operation was performed by Dr. Lamb. It was found that the ball, after fracturing the right eleventh rib, had passed through the spinal column in front of the spinal cord, fracturing the body of the first lumbar vertebra, driving a number of small fragment of bone into the adjacent soft parts, and lodging below the pancreas, about two inches and a half to the left of the spine, and behind the peritoneum, where it had become completely encysted.

The immediate cause of death was secondary hemorrhage from one of the mesenteric arteries adjoining the track of the ball, the blood rupturing the peritoneum, and nearly a pint escaping into the abdominal cavity. This hemorrhage is believed to have been the cause of the severe pain in the lower part of the chest complained of just before death. An abscess-cavity, six inches by four in dimensions, was found in the vicinity of the gall-bladder, between the liver and the transverse colon, which were strongly adherent. It did not involve the substance of the liver, and no communication was found between it and the wound.

A long, suppurating channel extended from the external wound, between the loin muscles and the right kidney, almost to the right groin. This channel, now known to be due to the burrowing of pus from the wound, was supposed during life to have been the track of the ball.

On an examination of the organs of the chest evidences of severe bronchitis were found on both sides, with broncho-pneumonia of the lower portions of the right lung, and, though to a much less extent, of the left. The lungs contained no abscesses, and the heart no clots. The liver was enlarged and fatty, but not from abscesses. Nor were any found in any other organ except the left kidney, which contained near its surface a small abscess about one-third of an inch in diameter.

In reviewing the history of the case in connection with the autopsy, it is quite evident that the different suppurating surfaces, and especially the fractured, spongy tissue of the vertebræ furnish a sufficient explanation of the septic condition which existed.

D. W. BLISS. FRANK H. HAMILTON.
J. K. BARNES. D. HAYES AGNEW.
J. J. WOODWARD. ANDREW H. SMITH.
ROBERT REYBURN. D. S. LAMB.

# Original Communications.

## SANITARY ADMINISTRATION AND THE HYPOTHESIS OF EVOLUTION.

By HENRY M. LYMAN, A.M., M.D.,

PROFESSOR OF PHYSIOLOGY AND OF DISEASES OF THE NERVOUS SYSTEM, RUSH MEDICAL COLLEGE, CHICAGO, ILL.

### PART I.

My attention, long enchained by more important things, has just now been directed to an interesting paper from the pen of Dr. Chaillé, of New Orleans, read last December before the American Public Health Association. It appears that the sanitary hierarchy of our land had been considerably flustered by a rumor that the doctrines of evolution stand in flat contradiction to their favorite plans for the erection of boards of health, etc., throughout the country. Dr. Chaillé was, therefore, requested to defend these organizations against the supposed assaults of Herbert Spencer and other ill-conditioned reprobates of similar stripe.

In this effort the doctor has done a real service by showing again what I had previously indicated (THE MEDICAL RECORD, November 8, 1879), that the doctrines of evolution, as enunciated by Mr. Spencer, notably in his work on social statics, do not in any way conflict with the establishment of official organizations charged with the care of public health. No philosopher objects to the legitimate exercise of such authority. All are agreed, in the language of Mr. Spencer, "That it comes within the proper sphere of government to repress nuisances. . . . He who contaminates the atmosphere breathed by his neighbor is infringing his neighbor's rights. Men having equal claims to the free use of the elements—having faculties which need this free use of the elements for their due exercise—and having that exercise more or less limited by whatever makes the elements more or less unusable, are obviously trespassed against by any one who unnecessarily vitiates the elements and renders them detrimental to the senses; and, in the discharge of its functions as protector, a government is obviously called upon to afford redress to those so trespassed against."

This paragraph is quite sufficient to indicate the true position of Spencer and of his disciples relative to the functions of government in the matter of public health. Its perusal clearly shows the groundless character of the charge that evolutionists are opposed to boards of health and sanitary officials. It renders entirely unnecessary the insinuation that Spencer's caustic criticism of such people was simply the expression of "certain immature views at the very dawn of his philosophical career, in 1850," which he had probably modified in 1864, and had, very likely, abandoned in 1880. The manner in which his views concerning social science have been modified is very well understood by those who have made themselves familiar with the progress of his thought during that period; and their modification is not at all in the direction which Dr. Chaillé would like to have us believe. Philosophers make no objection to the exercise of sanitary authority within the legitimate sphere of government. It is only when the agents of government ignorantly attempt to transcend that legitimate sphere that objections arise and philosophers find themselves constrained to pour out the vials of scorn upon offenders against that great law of equal freedom which is yet so imperfectly comprehended by the army of office-holders and office-seekers. The boundaries of the legitimate sphere of their activity I have elsewhere defined with sufficient precision (THE MEDICAL RECORD, November 8, 1879, p. 437); but these are truths which need much repetition, and I will reiterate the doctrine then urged: "In every well-ordered state there should be a medical officer to supervise the public relations of citizens, and to act as the adviser of the government in sanitary affairs. It should be his duty to prevent all damage to the health of citizens from the condition and use of the public property of the commonwealth. He should be prepared to act intelligently and promptly in all those sudden emergencies to which the ordinary existence of the community cannot be readily adjusted—such as an invasion by cholera or yellow fever, or the plague. But it should be clearly understood that for all the ordinary conditions and incidents of the life of a commonwealth the ordinary resources of the community are sufficient. Sanitary officials must cease their efforts when the line which divides the public life of the citizen from his private life has been reached. Otherwise, their control becomes at once intrusive, vexatious, and productive of evils greater than those which they seek to prevent."

The real cause of the contempt in which so many of our professional sanitarians are held by Spencer and his disciples, has, it is evident, not been touched by Dr. Chaillé. It lies just here—in their frequent transgression of the line which separates the public interests of citizens from their private relations. They are too anxious to do for people what people can better do for themselves. They are too ambitious and anxious for the immediate perfection of mankind. Instead of waiting patiently upon the unerring and orderly methods of normal evolution, which, as Spencer has abundantly shown, though at any given moment yielding results far short of ideal perfection, are the best possible arrangements for each unit of time, they are impatient to reconstruct society in accordance with the crude notions which may chance to be uppermost in their brains. The consequence of this temper is that the present attitude of our professional sanitarians is identical with the position occupied by those mediæval ecclesiastics who taught that religion was the most valuable possession of mankind. They esteemed the doctrines of the church so highly that they thought it right to establish an inquisition whose familiars should be everywhere, protecting men against wickedness, and visiting with all the terrors of the law every one who dared to differ from the fashionable dogmas of the church. In a precisely similar manner the great ambition of these modern enthusiasts displays itself in the substitution of the word *health* for *religion*, and in the attempt to erect a vast hierarchy of sanitary officials, occupying "every hamlet, village, town and city of the country, subordinated to and controlled by county, municipal, or State boards of health" (Gihon: "Trans. Am. Pub. Health Ass., 1880," p. 24), and busied with the supervision of copulation, with the suppression of free thought and action among physicians, and, too often, with the diffusion of scientific error among the people. Under these "highly paid experts" the members of the medical profession are to be compelled by fines and by imprisonment to enter a condition of slavery, rendering their unpaid services as spies and registrars, and what not, for the aggrandizement of their lords, the sanitary officials. Against such a degrading despot-

ism it is the duty of every intelligent man to raise his voice in earnest protest.

That this is no merely fanciful apprehension, is shown by the following extract from a recent daily paper, which of course will be stoutly denied by all parties concerned:

"The dispensary in the city of —— has just been closed by an order from the Board of Health, for the want of sufficient funds to maintain it. It seems that the expenses connected with the Health Department of —— have been enormous, and increasing each year. There has been what is generally known as a Board of Health ring, who have run matters to suit themselves. They have kept in position a large number of supernumeraries for political purposes. The college and other charitable institutions of the city have made propositions to the city to take charge of the poor, but the ring have always opposed every proposition made, because it would throw a number of them out of employment. One of the city physicians has a very large practice among the demi-monde, and claims to know every fancy woman in the city. He often has little matinées of the class that wear heavily starched underwear. It is pretty well understood that all the city police, employés, and bummers generally, in the vicinity of the health office, get medicines free from the city dispensary."

It would probably be too sweeping a charge to assert that these are the people who shape our sanitary legislation, who vote for the suppression of syphilis by the State, and who denounce without stint all criticism of their doctrines and proceedings. For these, as well as for other reasons, Herbert Spencer must still be accepted as the most satisfactory sanitary critic who has yet arisen.

Passing, now, to the second division of Dr. Chaillé's paper, I find myself arraigned for castigation in ludicrous juxtaposition with Mr. Spencer. To follow the doctor through the tangled web of probably unintentional misrepresentation which he has spun around my arguments would be an unprofitable undertaking, for it is quite evident that I have failed, in previous essays (THE MEDICAL RECORD, June 26, September 4, and November 6, 1880), to render myself intelligible to the ordinary intellect. Perhaps this is not strange, for the facts and the literature which justify my opinions are scarcely yet the common property of the profession, and it is difficult to introduce such data within the limits of a brief and hurried journal article, which must, therefore, of necessity assume a more or less dogmatic form. I will, for these reasons, endeavor once more to review the situation, striving, if possible, to throw a little light upon a difficult and neglected subject.

Dr. Chaillé objects to my suggestion, that one of the causes of the diminishing mortality and final extinction of an epidemic like the plague or typhoid fever consists in a progressive attenuation of their exciting poisons. He says: "The spreading of reproductive poisons no more diminishes their intensity, or the number of persons infected, than the spreading of fire, or of ferments, or of seeds, or of animal organisms diminish their effects." This assertion involves the assumption that the exciting poison of a virulent disease is either a process like oxidation, or an actual succession of invariable living organisms. For neither of these suppositions has any proof been yet produced. We cannot accept such a representation of the method by which small-pox is propagated as anything more than a fanciful piece of guess-work. When carefully investigated, the exciting poison of each one of the communicable diseases, as it is yielded for examination, is found, even in diphtheria and in anthrax, to be a virus, either liquid or volatile, and not a seed. The product of organized bodies, it is not itself an organized body. Time and space will not permit me here to adduce the proof of this most important distinction, but it lies at hand, where any one can investigate for himself. Being, then, a virus, it is susceptible of various modifications or dilutions, even up to actual destruction. Every virus may become more or less concentrated or attenuated. Corresponding variations in their effects, other things being equal, must necessarily follow. The experiments of Burdon-Sanderson illustrate the manner in which the activity of virulent substances may be intensified; the experiments of Pasteur show us how they may be attenuated and again intensified. The conditions of nutrition in the constituent cells of each individual largely determine the degree of intensity of the virus which they reproduce when poisoned by any given species of virus. Thus the tissues may at one time secrete a scarcely virulent substance, while under other conditions they may perish quickly in their own product. Hence the remarkable variation in the severity of the same disease occurring in different persons.

It is, of course, impossible during the course of an ordinary epidemic to trace these processes with the precision that marks a laboratory experiment; but there are certain phenomena connected with the evolution of epidemic diseases which are quite inexplicable without reference to such experiments. Let us consider, for example, the consequence of carrying the virus of scarlet fever into the tropics. A few cases are occasioned by its infective action, but the disease seldom spreads and soon disappears. The virus must either have been disintegrated by the warmth, moisture, etc., of the climate, or else its cultivation in the bodies of such patients as actually experience its influence must have so transformed its nature that its virulent energy is finally insufficient to disturb the equilibrium of those who are brought into contact with the substance. But in northern countries the fierce heat of summer is insufficient to disintegrate this virus. It would seem, therefore, more probable that the bodies of people in certain other countries do really modify the nature of the poison—do, in the language of Pasteur, actually attenuate this virus.

Again: It has been observed—more frequently, of course, before the practice of vaccination than at the present time—that epidemics of small-pox would culminate and decline; ceasing altogether before they had embraced the entire community of unvaccinated or unvariolated individuals ("Reynolds' System of Medicine," Am. Ed., vol. i., p. 156). This fact the older observers could not explain, except by the assertion that the susceptibility of the population was variable. The hypothesis of a variation in the quality of the virus furnishes a good explanation; is perfectly accordant with all the other data of science and does not conflict with the hypothesis of a variable susceptibility on the part of the individual.

Again: We know that by variolation of the cow the virus of small-pox is modified and reappears as vaccine-virus. This certainly must be accepted as an example of the attenuation or modification of a virus. That vaccine-virus itself becomes attenuated by successive transmissions is abundantly proved by the

experience of English vaccinators (Cameron: *Fortnightly Review*, May, 1881).

In view of these, and of other similar facts which might be adduced, it is very evident that the assumption of the invariability of the exciting poisons of the communicable diseases is without foundation in fact. Since we find that vaccine virus has become so far attenuated during the last eighty years—in the course of the four thousand successive cultivations to which the original Jennerian virus may have been subjected—that its protective power has very considerably diminished, it is not unreasonable to suppose that the indefinitely greater number of transmissions to which variolous virus is subjected during the course of a world-wide epidemic may at length evolve a substance whose gradually diminishing energy shall finally become insufficient to infect those with whom it is brought in contact.

The manner in which this gradual attenuation may be effected is suggested by the experiments of Pasteur, Buechner, Greenfield, and others. These observers found that, by cultivation of the bacteria which exist in the blood of animals suffering with anthrax, these organisms might be made to vary their virulence to any extent. The harmless hay-bacillus can be thus transformed into a source of virulent poison; while, conversely, the anthrax bacillus can be entirely deprived of its dangerous properties. In like manner the fungus which yields the alcoholic ferment may be propagated in such a way as to produce no change of sugar into alcohol. The properties of the excreta of these lowly organisms depend entirely upon the manner in which their nutrition is effected. Now it is obviously impossible to trace the processes of nutrition in animal cells detached from the living body; but the points of resemblance between all cellular organisms are so numerous that we may with advantage use such observations as the above for the purpose of aiding our comprehension of the processes by which the once healthy substance of the animal body may be made to yield a virulent poison. Just as by a particular method of feeding we may transform a generation of harmless bacteria into a virulent source of poison, so it is probable that through certain variations in the nutrition of animal tissues they become the source of specific poisons, which are as uniform in their character as the tissues from which they are derived.

It is in this connection worthy of note that the hypothesis of the immutability of disease-poisons is inconsistent with the hypothesis of evolution. Such a belief is a survival from the crudest form of the creation hypothesis—assuming the origin, at some indefinitely remote period, of a disease-germ, which has ever since continued to reproduce itself without change. For such an hypothesis there is not one particle of proof, and yet it is the corner-stone of the edifice of modern sanitary science, so called.

The foregoing view of the subject enables us to dispense with the necessity for demanding a specific seed-germ as the cause of every infective disease. It also explains the origin *de novo* of the various infective diseases. It does not exclude the participation of diseased bacteria as vehicles and active agents in the multiplication and propagation of certain diseases, like diphtheria and anthrax. It helps to explain the variable intensity of what is vaguely called "epidemic influence." It further enables us to understand how it can be possible for diseases like syphilis to utterly disappear among long isolated populations like the former Pacific islanders, while they yet persist among continental races. But this is a subject too large to delay my pen at present.

To this doctrine of the variable energy of disease-poisons, the mere fact that communicable diseases do undoubtedly spread by contagion or infection forms no objection. But, if dependent for their continuous existence upon this cause alone, they should long since have disappeared from the face of the earth, just as small-pox disappears from the United States, or as measles disappears from Japan, after every epidemic visitation. Knowing what we do regarding the manner in which such forms of virus may undoubtedly vary, and observing as we do the manner in which they issue forth at certain epochs from certain regions of the earth, it is impossible to resist the conclusion that the persistence of these diseases is owing to the fact that they are continually recruited by fresh generation *de novo* (a very different thing, by the way, from *spontaneous generation*, as Dr. Chaillé very well knows) in certain definite territorial centres of origin. We know the original foci of cholera, of small-pox, the plague, and typhus fever, in India, China, Central Asia, and Great Britain. Were it not for the continued existence of conditions which develop those diseases, there is no reason why they should not have died out at their sources as well as in other countries to which they are from time to time conveyed.

To this doctrine, furthermore, it cannot be objected that the origin *de novo* of infective diseases is inadmissible because of the difficulty of excluding the possibility of infection in any given case. We already possess a number of well-authenticated cases of such origin. Witness the cases of phlegmonous erysipelas and of mumps originating on shipboard, under the eyes of Prof. Huxley, as recorded in Carpenter's "Physiology" (Eighth Eng. Ed., p. 291). Witness the similar naval origin of typhus fever, as recorded by Léon Colin ("Traité des Malad. Epidém.," p. 637). Witness the origin of typhoid fever on shipboard or on isolated islands, as related in recent numbers of *The British Medical Journal* (November 6, 1880, p. 740 *et loc. al.*). Witness the origin of "false diphtheria," as observed by McClellan, in Northern Idaho (THE MEDICAL RECORD, February 5, 1881, p. 163). The similar origin of genuine diphtheria is an occurrence too frequent for special mention (M. W. Taylor: *Brit. Med. Jour.*, p. 7, July 2, 1881). I am perfectly familiar with the arguments by means of which it is sought to parry the force of such illustrations. They will not bear analysis. What is thus true of so many of the infective diseases is probably true of them all. Some of them, like cholera, have comparatively limited territorial foci of origin, while others, like typhoid fever, may spring up in any quarter of the globe.

What now is the bearing of this discussion upon sanitary administration? The answer is this: Since infective diseases are continually originating as the product of man and his environment, it is useless to hope that they can be "stamped out" by isolation, disinfection, and so forth, in those countries where they are really endemic. Quarantine against yellow fever is very useful at New York, but it is of exceedingly little value at Vera Cruz. Isolation of scarlet fever may be very effectual at Key West, but is useless in Brooklyn. To attempt the suppression of measles and scarlet fever in our northern cities by simple isolation, etc., is merely touching the leaves of the tree without going to the root of the matter; just as the frightful quarantines of the middle ages never prevented the spread of the plague, until the

advance of civilization and the increase of wealth had completely changed the social condition of the people. This is a point which Dr. Chaillé seems to have missed altogether. He has sketched a very lurid picture of our ancestors in their hovels, two or three hundred years ago; and he would have us infer that our improved condition is the result of the labors of the hierarchy which he represents. But he has neglected to record the fact that from remote antiquity the population of Europe was harassed in vain by sanitary officials, until the world grew tired of them; and, shortly after the time of the Reformation, swept the whole brood into oblivion, where they did, for the most part, remain until about half a century ago. Great progress was made by mankind during the period of its emancipation. The death rate fell to one-half of its original figures; but since the revival of sanitary officialism it has remained nearly or quite stationary. Many things are yet in need of improvement, but this can only be secured by the progress of science and the diffusion of wealth. We have learned how to prevent typhoid-fever by the use of pure water, etc.; and now we need to discover a similar radical antidote for the miasmatic causes and nutritive perversions which originate and sustain the supply of measles, scarlet-fever, and diphtheria.

But if, in the meantime, while waiting for such knowledge, the prevalence of these domestic pestilences seems to be largely dependent upon conditions of contagion, like those which occasion the spread of small-pox, then we need to take a hint from our management of small-pox. We should seek to attenuate the virus of these diseases, so that we may protect ourselves against their malignant forms by experiencing their milder modifications. If this cannot yet be done, we should take another hint from the experience of mankind before the days of inoculation and vaccination. In those days the best thing that one could desire regarding small-pox was to have had the disease. So, at the present time, the best thing for any one, regarding measles and scarlet-fever, is to have had them both. The child who has experienced these diseases in early life, under the care of his parents, is far better qualified for an active part in the duties of life than the timorous victim of coddling isolation, who reaches manhood without security against unexpected and unavoidable exposure to an attack of measles or scarlet-fever at a time when his occupation and his social position may render such an illness disastrous.

(To be continued.)

Some Curious Pathological Conditions.—In the notes on autopsies, made at the Columbia Veterinary College, and published in the *Journal of Comparative Medicine*, there are some curious pathological conditions described.

In the case of a *swan*, the viscera were all healthy, except the large intestine. This was lined with a thick concretion, forming a solid pipe with a roughened interior.

In the pelvic cellular tissue of a *doe*, there was a bloody infiltration, giving the character of a pelvic hæmatocele. The uterus was somewhat enlarged, and in its right horn a well-preserved product of conception about eight weeks old was observed.

A very striking and typical picture of hæmorrhagic spinal meningitis was found in the case of a monkey (*cebus hypolemus*).

The examinations were made by Dr. E. C. Wendt.

## THE TREATMENT OF NASAL POLYPI BY INJECTION.*

By DUDLEY S. REYNOLDS, M.D.,

LOUISVILLE, KY.

CHAIRMAN OF THE SECTION ON OPHTHALMOLOGY, OTOLOGY, AND LARYNGOLOGY.

Nasal polypi have been regarded as amongst the most rebellious of all morbid growths, not excepting even medullary sarcoma; and there are many eminent writers who to this day maintain that nasal polypi are absolutely incurable—that they may not, by any means, be so thoroughly destroyed as to prevent their recurrence. It is needless for me to say that the best efforts of the most brilliant inventive genius in our profession have been directed to the destruction and removal of these pestiferous bodies. The galvano-cautery has been tried in vain, and various forms of forceps, snares, and ecraseurs have been introduced to professional notice from time to time.

Now, whilst I lay no claims to originality in the introduction of the practice which has been most successful in my experience, I imagine the method of procedure, however well known the means may be, has received insufficient attention in attempts to meet the demands of every detail. Polyps grow in abnormally warm and moist situations only. Polyps in the nose generally spring from the folds of mucous membrane, and are produced by long-continued swelling and infiltration of the roof of the naso-pharyngeal space—or from the crypts on each side of the superior turbinated bones, and in rare instances from situations along the septum narium, or between the inferior turbinated bones and the alæ, or between the middle and inferior turbinated bones; the rule being that they proceed from the walls and cavities which have been so long involved in a low grade of inflammation and so long closed by contact between opposite walls of small crypts or narrow spaces. It is manifestly impossible, without great violence to neighboring structures, to introduce any kind of crushing instruments or forceps, and at the same time separate the blades sufficiently to enable the surgeon to grasp the polypus or other morbid substance, however slender the pedicle may be. It is equally difficult to surround the pedicle of a polypus growing from a narrow crypt in the nose with any kind of galvano-caustic wire. The same objection applies to the various forms of canulæ, of snares, and even of the ingeniously devised and skilfully constructed ecraseur made so popular by my gifted young friend, Dr. Jarvis, of New York. After a long and very unsatisfactory experience in various methods of dealing with polypi in different situations in the nasal cavities, I have concluded that caustics properly applied to the pedicles of polypoid growths, or even to their bodies, might work the process of destruction more effectively and with less damage to contiguous structures than any of the various methods hitherto advised for the removal of such growths. Five or six years ago I began the practice of rolling a very minute portion of cotton-wool upon the end of a very small probe, dipping it into pure chloride of zinc, and thrusting it through the most accessible portions of the polypoid growths in the nose. Repeating this process at the end of four or five days, I rarely failed to secure death and sloughing of all the morbid tissues.

* An address delivered before the American Medical Association.

I then persisted in my efforts to resolve the remaining inflammation of the Schneiderian membrane throughout its extent, and had the satisfaction of seeing what appeared for a long time to be permanent immunity from a disposition to return of the polypi.

I finally noticed in the periodical literature of the day an account of some gentleman's successful treatment of nasal polypi with injections of strong acetic acid diluted with an equal bulk of distilled water. I had a solution of muriate of ammonia and bichloride of mercury compounded of two scruples of corrosive sublimate dissolved in half an ounce of a saturated solution of muriate of ammonia. Having a patient with a very ugly myxomatous polypus growing from the septum of the nose, and having but a few days before witnessed what appeared to me a very grave operation for the removal of just about such a growth from the nose of a patient of my friend, Professor Coomes, I decided to try a more powerful agent than the solution of corrosive sublimate above-named. Therefore I loaded a hypodermic syringe with pure chloride of zinc liquefied by exposure to the air, thrust the needle as nearly into the centre of the polypus and as well down toward the base as it was possible under the circumstances. I injected about three minims of the caustic. The patient suffered intense pain—so much, indeed, that I felt obliged to administer morphia to ease his sufferings. At the end of twenty-four hours, my patient, who was a robust farmer of about forty-five years of age, had become very nervous and depressed in spirits, and declared he was greatly damaged by the treatment, that he was getting worse every hour, and was quite discouraged. Examination of the nose showed a yellowish, sphacelated mass of substance distending the cavity of that side, accompanied by a great deal of engorgement of the contiguous surrounding structures. The opposite side of the nose, being by nature much narrower on account of deflection of the vomer toward that side, became entirely closed from the swelling in the Schneiderian membrane. The dejected spirits of the patient caused me to make an effort to rid him of at least a part of the obstructing matters of the opposite side. I took hold of the dead tissue with my forceps, pinching it upon the surface, and to my surprise and great gratification the polyp came away *en masse*, leaving the nostril entirely unobstructed. There was very free hemorrhage for a few moments—in fact, it was quite alarming for about five minutes. I rolled a little cotton-wool upon the end of a probe, dipped it in chromic acid and thrust it hard against the bleeding pedicle, the exact length of which could not be definitely determined at the time. In a few minutes the hemorrhage ceased, and by removing the clots which had already formed by pushing plugs of cotton-wool through, allowing the air in this way to be almost constantly in contact with the cauterized pedicle, the surface soon became glazed, and the man went out of the office greatly encouraged. Five days after the injection of the polypus Mr. M—— returned to his home in Ohio entirely relieved. Since that time he has been using occasionally finely powdered white sugar and tannic acid in the proportion of half a drachm of the tannic acid to the ounce of sugar. I hear from him occasionally, and am able to state that he has been entirely free from any nasal obstruction for more than eight months.

Mr. W. O. C——, principal of one of the ward schools in Louisville, had a series of polypoid growths springing from the crypts between the superior turbinated bones on both sides of the vomer. For many years Mr. C—— had suffered almost complete closure of both nares. The gradual enlargement of these morbid growths created an amount of distention of the nasal cavities which had become quite painful. The eyes were almost constantly filled with water, and, for the relief of the stillicidium lachrymarium, Mr. C—— was induced to seek my aid. A little examination satisfied me there was no obstruction of the tear-passages. Further investigation disclosed the state of the nasal passages already alluded to, both sides being completely plugged. I began by injections of pure carbolic acid, of from one to two minims, into the substance of the polyps on both sides of the nose, taking one to-day and another to-morrow. Within less than two months a series of polypi of enormous size had been destroyed in both nostrils, and the passages rendered quite free. The remaining rhinitis had been carefully watched and subdued, and Mr. C—— was, on March 20, 1881, discharged from further treatment, and requested to report weekly to the office, to enable me to make observation of his progress. Now, nearly two months having elapsed, and finding no disposition to a return of the growths, the rhinitis being entirely gone, I consider Mr. C—— permanently cured.

Miss M. F——, a young lady attending a fashionable boarding-school in Louisville, had long suffered from nasal polypi. Injecting one in the left nostril, aiming to introduce one minim of the pure undiluted liquefied carbolic acid, created so much pain, the suffering being so prolonged, that, notwithstanding the first polypus injected shrivelled and disappeared within a few days, I injected those remaining with the common officinal tincture of iodine, introducing from one to three minims at a time, according to their size. I had the satisfaction of seeing prompt disappearance by shrinkage of the polypoid growths, the pain, which has never been so great as that produced by the carbolic acid, lasting only for an hour or two. Three growths upon the left side and two on the right were destroyed in this way. Miss F—— has been almost entirely well for three months. As there is now no remaining rhinitis, and the passages are entirely free from obstruction, I conclude that she is permanently cured.

Miss J——, a young lady, of nineteen years, who had been obliged to quit school on account of the disgusting odor of her breath and the great difficulty she experienced in breathing at night, sought my services. An examination disclosed an entire absence of the inferior turbinated bones. A series of post-nasal polypi were removed, after which a very large growth of the myxomatous type was observed hanging from the crypt external to the superior turbinated bone. This was removed with forceps as nearly as possible, though a portion of the pedicle, as usual, remained.

Miss J—— appeared to recover, and was dismissed as being practically cured. Three weeks later she had an attack of intermittent fever, and returned with a series of polypoid growths in the left nostril, developed apparently from the remaining shreds of the primary growths, which had been removed from the crypt external to the superior turbinated bone. Believing further attempts with forceps unjustifiable, I practised the thrusting of the probe containing chloride of zinc up into the pedicle, and succeeded in this way in producing an amount of pain and inflammation decidedly distressing and alarming. As soon as this local discomfort had abated sufficiently to permit, I injected pure carbolic acid

with no apparent benefit. The vascularity of the pedicle being great, and the disposition to return being so decided and persistent, I concluded to inject the solution of corrosive sublimate and muriate of ammonia, already alluded to. This injection was followed by sloughing of the anterior growth of morbid substances, and speedy recovery, which has for a number of months remained, to all intents and purposes, perfect. I may remark in passing that I have tried pure commercial acetic acid. I have tried it diluted; I have tried the saturated solution of corrosive sublimate in alcohol, and all the other substances already named, and I have arrived at the conclusion that mucoid polyps are best relieved by carbolic acid injections; that the recurrent polyps with fibrous pedicle which may have resisted attempts at removal with forceps, or the action of the galvano-cautery, may, as a general thing, be best removed by injecting either the officinal tincture of iodine or the corrosive sublimate mixture. The myxomatous type of polypus may be removed with chloride of zinc, or a strong solution of corrosive sublimate and muriate of ammonia. The so-called hypertrophied tissue, or redundant mucous membrane covering the turbinated bones, can be made to shrink promptly and efficiently by the injection of the officinal tincture of iodine, which leaves no mark behind, and is attended by but little pain, and this always of temporary duration.

No matter what method is practised, after-treatment is of more importance than the removal of the polypus itself; because, unless the rhinitis which always attends the presence of polypoid growths of the nose—and which never ceases by their mere removal—is controlled, it will undoubtedly furnish all the conditions necessary for the reproduction of the growths. A very large number of cases might be cited in support of the principles already detailed, but it is believed enough has been said to indicate the importance of after-treatment, which should be conducted upon precisely the same plan as that pursued in obstinate cases of rhinitis unattended by polypoid growths.

## REPORT OF TWO CASES OF TRACHEOTOMY, WITH REMARKS.

By C. G. JENNINGS, M.D.

LECTURER ON CHEMISTRY AND DISEASES OF CHILDREN, DETROIT MEDICAL COLLEGE.

CASE I.—*Diphtheritic Croup.* A. K——, aged two years and three months, was first taken ill January 4, 1881. He complained of sore throat, was feverish and fretful, and coughed considerable. I first saw the patient on the evening of January 10. Examination showed the pharynx and tonsils covered with diphtheritic exudation, and the cervical glands swollen and tender. Temperature, 100°; pulse accelerated, but strong. The characteristic symptoms of laryngeal stenosis indicated the invasion of the larynx by the false membrane.

On the morning of the 12th, the severity of the dyspnœa became alarming. The cyanosis, feeble and rapid pulse, and failing strength, indicated a speedy fatal termination. Milder measures having failed, tracheotomy was proposed, as offering the only chance of life. At 12 M., assisted by Dr. Albert Campan, with the patient under chloroform, I opened the trachea below the thyroid isthmus. There was slight hemorrhage from one incised vessel; it was tied. After the insertion of the tube, artificial respiration was necessary, and had to be repeated at intervals for some time. Pulse was imperceptible at the wrist. Small doses of brandy and milk were administered every fifteen minutes. When reaction had taken place, the irritation of the canula caused incessant coughing. One-thirtieth of a grain of sulphate of morphia was given, with excellent results.

The room was kept at a temperature of about 80° F., and a constant evolution of steam maintained.

8 P.M.—Many pieces of membrane have been coughed through the tube. Temperature, 103°; pulse, 160; respiration very rapid. No signs of pulmonary inflammation. Ordered the brandy and milk continued; also ten grains of quinine, in two doses, per rectum.

January 13th, 9 A.M.—Had a bad night. The attendant had great difficulty in keeping the tube clear. Temperature, 101.5°; pulse, over 180. Two grains of sulphate of quinia were given every three hours; stimulants continued.

9 P.M.—Is much better this evening; sleeps well and takes plenty of nourishment. Temperature, 99.5°; pulse, 140.

January 14th., P.M.—Temperature, 100.5°; pulse, 160 Removed the canula, and found the wound inflamed, and covered with slight diphtheritic membrane. Dressed it with carbolized vaseline and absorbent cotton.

January 18th.—The wound has cleaned off, and looks well. Temperature normal; pulse, 120; pharynx clear of diphtheritic exudation; appetite excellent.

January 25th.—Patient is doing finely. He plays around as natural as ever. Sufficient air now passes through the larynx to admit of speech; occlusion of the tube, however, is followed in a few minutes by great distress. Another member of the family was taken yesterday with pharyngeal diphtheria.

February 4th.—The stenosis of the larynx has been rapidly disappearing, and now respiration can be carried on with perfect freedom for a little time with the orifice of the canula closed with a cork. Yesterday the removal of the canula to clean it was followed by dyspnœa so severe as to compel me to immediately replace it. Each subsequent attempt produced the same effect. To-day a second tube was inserted, while the other was being cleaned. Careful examination of the wound with reflected light failed to reveal the presence of fungous granulations, or anything that would account for the dyspnœa. A laryngoscopic examination could not be made.

February 12th.—The above condition continued for four or five days; since then no trouble has been experienced while cleaning the tube. The case, however, now presents the following unusual phenomena: In the morning, when the child is dressed, the mother closes the orifice of the canula with a cork—respiration is carried on without the least discomfort. When I make my visit, about eleven A.M., I remove the canula, and insert a solid wooden plug of the same size and shape, but not long enough to extend into the trachea. Now, so long as the child sits up and is tranquil, no difficulty is experienced; when, however, a deep, sudden inspiration is taken, either voluntarily, or in crying or laughing, an attack of dyspnœa supervenes, which necessitates the immediate replacement of the canula—*although the tube is still corked up, and no air can pass through it, relief is immediate.* A similar effect is produced when the child lies down, the difference being that

in the latter case the dyspnœa is gradual in its onset, and respiration *cannot* be carried on with the orifice of the canula occluded. The mother removes the cork when the child goes to bed at night or lies down during the day.

Such phenomena cannot be accounted for by any morbid condition of the larynx; the cause evidently must be a temporary change in the calibre of the trachea below the artificial opening.

The conditions following a tracheotomy on a young child are peculiarly adapted to bring about such a result. The trachea at that age is very soft and compressible, and is still further weakened by the opening made in it; it is also deprived of the support of the superjacent tissue.

For the first two or three weeks following the operation, the inflammatory induration surrounding the wound is quite sufficient to retain the anterior wall of the trachea in its place; later, when this induration has subsided, and before the formation of cicatricial tissue, a sudden deep inspiration, or even the recumbent position may cause it to collapse. The collapsed trachea would then act as a valve, partially or entirely preventing the entrance of air into the lungs.

The relief afforded by the insertion of the canula is readily explained. The shape of the tube and its position when in situ, are such that its anterior concave aspect forms a support for the lower edge of the tracheal wound.

March 4th (fifty-three days after the operation).—The boy's condition continued about the same as last recorded up to the beginning of last week. Since then such improvement has taken place, that the tube can be left corked up or removed during the whole twenty-four hours.

Yesterday he caught cold, and a general bronchitis has developed. I removed the tube and gave orders not to replace it unless absolutely necessary.

No inconvenience was experienced after this. The bronchitis responded readily to treatment, and the wound closed March 10th.

Case II.—*Membranous Croup.*—On the evening of May 5th, I was called to see F. V——, aged five years and seven months, previously a strong, healthy girl. She had been sick a week with symptoms of laryngeal inflammation. When I saw her she had all the symptoms of pseudo-membranous laryngitis in the second stage.

May 6th.—Notwithstanding the continuous use of the steam atomizer, and the free administration of emetics, the laryngeal stenosis had so far advanced that tracheotomy appeared to be the only means of prolonging life. I called in Dr. Albert Campan for advice and assistance, and at eleven o'clock, with the patient under chloroform, I opened the trachea below the thyroid isthmus. One of the veins of the thyroid plexus was incised and caused some trouble, but the bleeding ceased with the introduction of the canula. The patient rallied well after the operation, and in a short time passed off into a quiet sleep. The room was kept at a moderately warm temperature; and several folds of gauze were kept over the opening of the canula. 8 o'clock P.M.—Is bright and cheerful. Temperature 99.75°; pulse 140.

May 7th.—Passed a very quiet night. After quite a struggle this morning, a tough piece of membrane about two inches long, and large enough to almost entirely fill the trachea, was extracted through the wound. After this the air passed readily through the larynx. It closed up again, however, in about an hour. Temperature, 102.5°; pulse, 150. Ordered one grain of sulphate of quinia every two hours.

The case went on from this time with no untoward symptoms. The fever soon subsided, the larynx became patent on May 11th, and on May 16th, ten days after the operation, the tube was permanently removed. The wound cicatrized ten days later. For eight days following the removal of the tube there was complete aphonia, probably due to inflammatory thickening of the vocal cords.

The points of interest in the first case are the prolonged retention of the canula, and the causes which made it necessary. From the foregoing, the cause of the asphyxia when the tube was removed was evidently a collapse of the anterior wall of the trachea below the wound. Although phenomena similar to those above cited have been of not infrequent occurrence, as shown by the records of operators, this cause for their manifestation has been almost entirely overlooked. Dr. Cohen,* in his exhaustive monograph on tracheotomy, does not mention it among "the causes which prevent the early removal of the canula." Under the head of "spasm," however, he mentions several similar cases. In Protessor Steiner's report† of fifty-two tracheotomies, is recorded one case presenting analogous symptoms. The permanent removal of the canula was delayed about two years. At first the symptoms were ascribed to laryngeal spasm; but later this explanation was rejected, and the author acknowledged himself unable to assign a cause for the peculiar symptoms.

Dr. G. W. Rachel,‡ of New York, reports a similar case and offers a similar explanation. He is the only writer I know of who ascribes the symptoms to a change in the lumen of the trachea. In addition to the softness and pliability of the trachea, he considers the cervical curve of the vertebral column, which is more marked in children than adults, to be an important factor in the production of the dyspnœa.

The second case has nothing of particular interest, and only deserves a place in statistics. Together with the first it may help to give encouragement to an operation which, in some quarters, is still looked upon with suspicion; and this in spite of a fair proportion of recoveries, and the terrible mortality rate of the disease which demands its performance.

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The Typhoid Fever Cases at Rugby, Tenn.—Dr. James T. Whittaker gives a report, in the *Cincinnati Lancet and Clinic*, of the epidemic of typhoid fever which broke out not long ago in the English colony at Rugby, Tenn. He found in all twenty cases among the four hundred inhabitants of the village. The cause of the disease seemed without doubt to proceed from drinking the water that had stood in an old cistern and had there become filthy; or, in other cases, from drinking the water from a shallow well that stood not far from the cistern. The cause of the infection was speedily abolished, and it is expected that there will be no more trouble.

The Insane Asylum at Binghamton, N. Y., has been placed in charge of a homœopath, Dr. Armstrong.

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* Croup in its Relations to Tracheotomy. Philadelphia, 1874.
† Amer. Jour. of Obstetrics, vol. iii., p. 562.
‡ Amer. Jour. of the Medical Sciences, July, 1877.

## THE MEDICAL USE OF STATICAL ELECTRICITY.

By GEORGE M. BEARD, A.M., M.D.

(Read before the American Neurological Association, June, 1881.)

Of the three forms of electricity—faradism, galvanism, and franklinism—the latter, franklinism, was first to be used, and is now again coming into use. For one hundred and fifty years franklinism has been used in medicine, and claims of a most stupendous character have been made for it as a therapeutic agent. Franklinism has a history of tremendous promise and tremendous disappointment. It was expected one hundred and fifty years ago, and was then claimed, and has been claimed during the last century and a half and during the last few months, in Europe and this country, that franklinism is superior, as a means of cure of disease, to galvanism or faradism. It is quite possible that it may have some advantages, in some diseases or for some temperaments, over galvanism and Faradism. But up to the present time there has been no proof of any such advantage offered by any of those who have written on the subject. It is possible—indeed, it is quite probable—and it seems to me, in fact, more than probable, that there are certain diseases, or at least certain temperaments, for which statical electricity, used in the form of sparks, or of insulation, or of shocks, or by the secondary statical current, or by all combined, will be of more service than the ordinary forms of galvanism and faradism with which we are all familiar; and I have hopes that in the future this will be demonstrated. During the past year I have myself been using statical electricity, more or less, every day, and am trying as best I can to answer that question. The reason that this question has not been sooner answered is, that we have had no machine that would go at all seasons of the year—no machine on which we could depend. That objection is now done away with. In Paris, Vigoroux has been using a modification of the Holtz machine, which is enclosed in a glass case, so as to keep out the atmospheric moisture, and is run by a small gas-engine. Inside the glass receiver is sulphate of lime, to absorb the moisture. Dr. Morton has described this machine. Mr. Berge, of this city, has lately constructed for me a machine which goes at certain seasons of the year —even in the early summer. It is, like all modern statical machines, a modification of the Holtz machine—the leading features being the use of gold tinsel, instead of points of charge, and four glass cylinders instead of merely two. It is run by boy-power, but a small glass engine would answer very well if any one thought it necessary. It gives all the current force needed, even during the last month, which we know has been unusually damp.

I am well convinced, from experiments this summer, that this statical machine of Mr. Berge will not answer for damp weather, unless it is enclosed in a glass case, as is done with the machines in Paris. My apparatus without a glass case worked very well indeed during the months of May and June, but in July, when the weather was excessively moist and warm, it stopped altogether or worked capriciously. It is impossible to use statical electricity in practice successfully, unless we have an apparatus that will go at all seasons of the year—summer as well as winter; for it is very annoying to begin treatment with a case, and then be compelled to suspend it because the machine will not work. We have been through these same difficulties in our early experiments with Faraday electricity and galvanic electricity. At one time it seemed that we never could get a good Faraday battery or a good galvanic battery—that is, one that would be good, neat, economical, and at all times trustworthy; but that difficulty has vanished long ago, and I am in hopes that, with the aid of the instrument-makers, we shall be able to get rid of all the practical difficulties that are now in the way of the use of statical electricity, at least among specialists. It is doubtful whether it can ever be used among general practitioners, or whether it can be carried about as conveniently as Faraday or galvanic batteries; but in this age we run great risks as to what may or may not happen in science and in invention.

Statical electricity acts both directly and reflexly, like other forms of electricity. It causes muscular contractions if used strong enough and condensed enough, just as other forms of electricity. It acts as an irritant, like other forms of electricity. The general philosophy of the sedative and tonic effects it produces is precisely like those of the other forms of electricity described in my writings on that subject. Ultimately analyzed, it is simply a molecular disturbance. The comparative value of franklinization, galvanization, and faradization, can only be estimated by those who are familiar with galvanization and central galvanization. Franklinization cannot be localized accurately—it must act upon the whole system; and any comparison between franklinization and the use of the other forms of electricity, in medicine, must be with their *general* Faradization and *central* galvanization, and not with local faradization and local galvanization. In Paris, Vigoroux told me that he obtained sedative and tonic effects from the use of statical electricity, but these effects have been obtained from the same form of electricity for one hundred and fifty years. Any published list of cases illustrating that is no addition to our scientific knowledge. To sum up in a word: the practical question before us in regard to statical electricity is not whether we can get sedative and tonic effects from it—that has been known for a century and a half—but whether its effects are superior in quality and quantity to those that can be obtained from central galvanization and general faradization, or from local use of galvanic and Faraday currents. That question can be answered only by those who are thoroughly familiar with general central and local methods of using electricity. We must have a standard of comparison, and a person who is not familiar with the general and central methods of electricity as they are used in this country and Germany, and have been for years, has no standard of comparison by which to judge of the comparative value of franklinization. The comparative investigation of this question is one of great difficulty. It is complicated with the general source of error of mind acting on body, and many other sources of error that cannot be mentioned here. My own conviction is that in time it will be proved that there are certain advantages for certain temperaments, possibly for certain diseases, but more likely for certain temperaments, in the franklinization; but this cannot be proved by any published list of cases where statical electricity has been used, unless the other forms of electricity in their general and central methods have been used in the same cases. Charcot or Vigoroux have no theoretical or practical knowledge of the use of electricity to medicine. They are not familiar with the literature of electro-

therapeutics—even in their own language—and all that they have thus far written on the use of statical electricity, save in regard to the form of machine, is more than a century old, both in science and experience.

It is needless to detail cases here, but this may be stated: that I have seen, during the past year, quite a number of cases of nervous diseases that have seemed to be more benefited by franklinization than by either galvanization or faradization. I make this general statement, taking into full consideration the sources of error to which I refer, and am open to all the correction that comes from larger experience of myself or others. The difference in the effects of franklinism and faradayism and galvanism is of degree, or not in quality; and it is very difficult, with a limited number of cases, to determine how great a degree of advantage there may be in franklinism in certain temperaments. One thing is established, and that is that delicate ladies will bear this treatment, and are not frightened by it, as it might be supposed they would be, when it is used carefully and without causing excessive pain. The sedative effects of the simple process of charging a patient is not comparable, according to my experience, with those obtained from galvanism or faradayism, when applied centrally or generally.

The convenience of not being obliged to remove clothing is, practically, not to be ignored, and in those cases where any current answers, will decide for franklinism.

We may have tertiary statical electricity by a third series of Leyden jars, if you wish; and I am having a set constructed for that purpose, more for the curiosity of the thing than in the expectation of using it any in practice. Indeed, the series might go on indefinitely, for all that I know, just as we have different coils of wires in the faradaic machines. In speaking of the faradaic battery, we use primary current for the current in the inner wire, and secondary for the current in the wire outside of it; and it would be in harmony with this nomenclature to call this current, from the first set of Leyden jars—the secondary statical current—statical electricity; and the current from the third set of jars, the tertiary.

The term "static induced," that Dr. Morton has applied to his current, has the disadvantage that it gives the impression that the phenomena of statical electricity, in general, are not induced, but that this current is induced *per se;* whereas, all the phenomena of statical electricity are the phenomena of induction.

The theory of the Leyden jars, from which this current is derived, is as follows: I take the description as found in the chapter on electro-physics, in "Beard & Rockwell's Medical and Surgical Electricity." "As the positive fluid collects on the inside, the outside becomes negative by the expulsion of the positive fluid naturally in it, and the accumulation of the negative fluid in its stead, drawn from the earth." The current, therefore, taken from the outside of the jars, is really a to and fro current, and can be regulated, as Dr. Morton says, by means of the movable rods connected with the prime conductors. Muscular contractions can be produced by this current, when used with a sponge, that resemble the contractions produced by the faraday current, and, as Dr. Morton says, far less painful than the primary statical electricity. It is, however, not much less painful than the faraday current from a battery like that of Kidder, or any battery of similar construction. I am now experimenting with this current. We shall all know more of it by and by. The nomenclature of all the forms of electricity used in medicine has always been an element of confusion, much more formerly than now. There were half a dozen terms, more or less, for faradism, and as many for galvanism. The primary current, the inner coil, was applied to the galvanic current oftentimes, even in good literature; so that, for a long time, it was impossible to tell what writers were writing about. Out of this confusion we have, in recent years, seized firm hold of these three terms: faradism, franklinism, galvanism, although a dozen or more synonyms are sometimes used.

As franklinism is now to be permanently used in medicine, it would be well to simplify the terminology by avoiding the superfluous word induction, and simply describe Dr. Morton's currents as secondary statical electricity, applying the term franklinism to all the phenomena of statical electricity.

I do not intend hereafter to abandon the electrical treatment of any obstinate case of nervous disease until statical electricity has been tried.

A single case illustrates my position on the subject. I was treating a lady with neurasthenia that had gone on to hysteroidal symptoms. She had hemianæsthesia. When she first sat down on the insulated stool, she could not feel the sparks of statical electricity that were on the right arm, but after an application of less than ten minutes she cried out "I can feel it now." Why did I not at once assume that franklinism had a specific power in the treatment of anæsthesia? Because I had seen other forms of electricity work rapid results in the same condition again and again, and because, also it is well known that symptoms of anæsthesia yield sometimes almost instantly to almost any influence that may be brought to bear upon it.

When Dr. Rockwell and I began the study of general statical electricity, we were astonished at the remarkable sedative and tonic effects produced. Those who are now using statical electricity or franklinism are astonished at the same effects. The effects with all forms of electricity are genuine and important and permanent; but a comparison of the relative quantity and degree of the effects of general and central application of the faradic and galvanic currents with franklinization is only possible to those who are familiar at least with the literature of electro-therapeutics.

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Student-Life in Vienna.—Most of the American medical students are making a specialty of the eye, ear, and throat. The clinical material here is immense. The finest of all is the touch course, in the lying-in ward. It is worth a trip for that alone. In one course you have the opportunity of examining at least one hundred pregnant women, in all the different stages, and of applying the forceps and other manipulations, under the guidance of the Professor. There is nothing that can bear favorable comparison to it in America.

Excepting Paris, Vienna is the most expensive city in Europe. The climate is exceedingly changeable, demanding of one great discretion as regards clothing. Please allow me to correct a false impression that nearly all Americans possess regarding the cheapness of student-life in Europe. If a student attends all the courses he wishes and obtains comfortable board, it is not possible to spend less than one hundred dollars per month. This is even calculating very closely, for everything is very dear.—*Cor. of College and Clinical Record.*

# Reports of Hospitals.

## NEW YORK HOSPITAL, N. Y.

(Reported by GEORGE M. TUTTLE, M.D., House Physician.)

### DOUBLE LOBAR PNEUMONIA—EMPYEMA—OPERATION—CURE.

WHILE a successful issue to the operative treatment of empyema is by no means a rare event, a glance at the fruitful literature of the subject makes it evident that there is considerable diversity of opinion not only as to the individual methods employed, but also as to the fundamental principles to be observed.

The following case is offered simply for the reason that the perfectly successful result would seem to warrant its presentation.

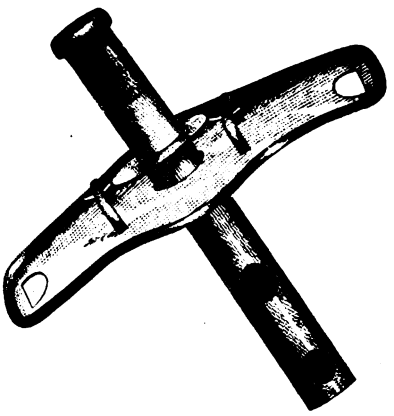
John W. B——, a colored waiter, twenty-two years of age, was admitted to the wards of the hospital on the 1st of last May, in the service of Dr. James W. McLane. He had been in good health up to April 26th, six days prior to admission, when exposure to cold and wet was followed by a well-marked chill, headache, severe pain in the right side, rapid, difficult breathing, and subsequently short, painful cough, with scanty, tenacious, rusty sputum. Temperature on admission, 102.6° F., and patient's condition one of marked prostration. Physical examination revealed an area of pulmonary consolidation on the right side from the spine of the scapula to its inferior angle, and extending in this plane around the axilla, and anteriorly, as manifested by a dull percussion note, exaggerated tactile fremitus, tubular breathing, with crepitant râles and loud, ringing bronchophonic voice. Over the same side of the chest, from the inferior angle of the scapula to the base of the lung, a flat percussion note, with loss of expansion, tactile fremitus and respiratory murmur, and a faintly conveyed bronchial voice, revealed the presence of fluid in the right pleural sac. There was no apparent bulging of the intercostal spaces. Sputa rusty. Urine contained a one-tenth bulk of albumen and many hyaline tube-casts.

For the week following admission the patient's temperature ranged between 101° and 102° F., the signs of consolidation becoming less and less intense with an occasional râle redux. On May 8th a small patch of consolidation was discovered in the left lung, in the interscapular region, the pneumonic process gradually involving the apex. By the 16th, resolution seemed complete in either lung, with the exception of rude respiration at the apices, but the patient's prostration became more profound, and he was observed to sweat profusely at night. The temperature still ranged from 99° to 102° F. A hypodermic needle was inserted just below the inferior angle of the right scapula, and a syringeful of thick, yellow, laudable pus withdrawn from the pleural sac. Renewed physical examination showed the fluid level to be two inches above the inferior angle of the scapula, while slight but well-marked bulging of the intercostal spaces was apparent.

Mensuration at nipple level: right chest, 16¼ inches; left chest, 15½ inches.

At the right apex, anteriorly, tubular breathing, with harsh vocal sounds, gave evidence of the crowding of the lung upward and against the spinal column. The upper border of the liver could not be defined; its lower border was one inch below the costal edge, in the mammary line. Position of the heart normal.

With the patient's full consent, operation was at once decided upon, and Mr. Ford, of Caswell, Hazard & Co., made for me the following instrument: a trocar carrying a simple, straight, thin silver canula, one-fourth of an inch in diameter, two and five-eighths inches long, with a very large, broad swivel-plate, placed at a distance of one and one-half inch from the inner end of the canula, the plate having free lateral motion. The inner end of the canula



was blunted to prevent any injury from its impinging upon the lung; the outer end was fitted with a small collar, to give firm attachment to a rubber tube closed by an air-tight nickel valve. Three smooth fenestra were made in the inner portion of the canula, and large holes in the swivel-plate for tapes to secure the whole apparatus. The instrument is nothing but a large modified tracheotomy-tube.

On May 21st the patient was etherized, and, under full antiseptic precautions, an incision was made with a bistoury in the ninth intercostal space—the lowest practicable point—in a line with the inferior angle of the scapula, and the trocar, carrying the canula, easily introduced into the pleural sac. The presence of pus at this point was tested by a hypodermic needle just before the incision was made. On withdrawing the trocar a full stream of pus poured from the canula, but none oozed from the pleural sac along its sides. The rubber tube with valve was now attached, and after allowing twenty ounces of pus to flow out, the valve was closed, the end of the rubber tube placed in a large wad of borated cotton, and the whole thorax enveloped in a broad Lister dressing, the edges of the latter being kept tightly coated to the chest by long rubber bandages.

At the time of operation, 3.20 P.M., the patient's temperature was 101.2° F. At 5.30 P.M. the temperature was 98.8°; and the patient free from pain or even discomfort. On the following day, May 23d, the temperature rose in the afternoon to 102.8°, but the patient had no pain, cough, or sweating. The dressing was removed under the spray, and found absolutely clean. Ten ounces of pus were allowed to flow out, great care being taken to prevent the ingress of air, and the dressing reapplied. The temperature immediately fell to normal. Examination now revealed a good, resonant percussion note, and rude vesicular breathing at the right apex, in place of former flatness and tubular breathing. During

the next five days the temperature did not rise beyond 99° F., from ten to twelve ounces of pus being withdrawn daily; the patient in the meantime being wholly free from cough or pain, and able to lie on either side, and to sit up while the dressings were changed. Examination showed good vesicular breathing and full, resonant percussion note anteriorly from the apex to the fifth rib, and posteriorly as low as the inferior angle of the scapula. A few friction râles were heard in the right mammary region.

June 5th.—On opening the valve no pus flowed, and it was observed that no air entered or issued through the canula. Passing through the latter a small, flexible catheter, complete canalization by recent granulations was found to have taken place about the canula. With slight force these were pushed aside, and pus flowed through the catheter. Some air having entered the chest, and no collapse of the lung following, it was decided to wash out the sac with a solution of thymol (1 to 1,000) and this was done in the usual manner, by means of a glass funnel and suitable tubes attached to the catheter, the latter being passed through the canula well up into the chest, and a very gentle stream allowed to flow in, returning at the same time through the canula by the sides of the catheter. This was done until the returning fluid was clear. The thymol solution was carefully kept at a temperature of 104° F.

June 23d.—Pleural sac washed out daily since last date. No pain or cough. Temperature frequently rises in P.M. to 101°, and on one occasion it reached 104° F., falling usually to normal after changing the dressing. One to two ounces of laudable pus are evacuated daily. All over the lung, anteriorly, a high-pitched percussion note, exaggerated fremitus, numerous friction râles, and more distinct vesicular breathing, give evidence of the thickening and union of the granulating surfaces of the parietal and visceral pleural.

June 30th.—Highest temperature during past week, 100.8°—usual, normal. Patient has gained six and a quarter pounds, and has been allowed to sit up for the past few days.

July 4th.—No pus obtained, and the thymol solution returned from the chest clear. Granulations about the canula effectively prevent the entrance of air into the pleural sac. Silver canula removed and Lister dressing discontinued. Patient now allowed about ward; has gained five and a half pounds since last date, and temperature is uniformly normal. No pain or cough.

July 10th.—Patient has gained twenty-two pounds; feels perfectly well, and is anxious to be discharged, but agrees to remain for a time under observation.

July 27th.—Patient insists that he is as well as he ever was, and says that he ran up-stairs "two steps at a time."

Examination shows a full, round, symmetrical thorax, with fine muscular development. Cyrtometer tracings at nipple level: right side, 16½ inches; left side, 16½ inches. At junction of last cartilage with sternum: right side, 15½ inches; left side, 15 inches. Expansion same on both sides. All over right chest, as compared with the left, the percussion note is dull and high-pitched; tactile fremitus exaggerated; breathing vesicular, but distant; voice distant and vibrant. Below the point of incision, from the great thickening and abundant granulations, both voice and respiratory sounds are distant but distinct, while the percussion note is very dull. Lower border of liver is at costal edge. Patient discharged cured.

A complete cure, keeping in mind the possibility of future complications, was secured in seven weeks from the time of operation, the patient having suffered a minimum of pain and discomfort, and having had but two small doses of morphine, and no stimulants. In the treatment of the case the following principles were carefully adhered to:

*First.*—The rigid exclusion of all air from the pleural sac until the crippled lung had had ample time to expand and contract adhesions.

*Second.*—The admission of no air that was not rendered thoroughly antiseptic.

*Third.*—Gradual withdrawal of pus from the pleural sac.

*Fourth.*—Free exit of fluid while washing out the chest, so as not to break up fresh adhesions between the two pleural surfaces.

The only advantages claimed for the canula, which is susceptible of various modifications and improvements, are simplicity, cleanliness, and ease of management, especially when washing out the chest.

Taking into consideration the known lack of recuperative power in the patient's race, his prostration after a double lobar pneumonia, the large amount of pus in the pleural sac, and the compression of the lung, the very gratifying result of the above treatment would seem, in a measure, to justify the strict adherence to the principles stated.

## Progress of Medical Science.

BORACIC ACID IN THE TREATMENT OF CATARRH OF THE BLADDER.—Rosenthal (*Wiener med. Blätter*, No. 46) recommends boracic acid very highly in the treatment of cystitis, whether of peripheral or central origin. He usually prescribes: ℞. Acid. boracic, 2 grammes; aquæ, 100 grammes, with the addition of syrup. aurantii cort., the whole to be taken in the course of a day. The mixture tastes like weak lemonade, and may be given for a long time without producing the unpleasant secondary effects of salicylate of soda, chlorate of potash, and the oleo-resins. In the more severe cases of cystitis with profuse secretion of mucus and pus, so-called cystitis ammoniacalis, Rosenthal also washes out the bladder twice a day with a five per cent. solution of the same agent.—*Allgem. med. Central-Zeitung*, No. 41, 1881.

TREATMENT OF CHRONIC URETHRITIS AND SPASM OF THE BLADDER.—During the past ten years, Weiser has adopted a new method of treatment in chronic gonorrhœa, and out of twenty-five cases he has succeeded in curing all but one patient. The latter was afterward advised to consult Dr. Grünfeld, who, by means of the endoscope, discovered granulations in the urethra, which, being cauterized, the man got well after several weeks' treatment. Weiser first passes an elastic or a metallic catheter into the bladder, and, after thoroughly evacuating the viscus, injects into it by means of a clysopompe, or, preferably, an irrigator, a solution of sulphate of zinc, 2.0 to 3.0, and tannin, 0.5, in 500.0 of water, at a temperature of 26° R. The catheter is then withdrawn, and the patient directed to empty his bladder, thus bringing the medicated solution in thorough contact with the whole of the urethra. This method

is effectual in all cases where no granulations exist. The latter require the application of caustics. The author has, however, omitted to state how long the treatment must be continued. In cases with associated cystitis, 3 to 4 drops of nitrite of amyl should be added to the above solution, the former being a very active disinfectant, 1 or 2 drops added to a bottle of urine serving to prevent the development of ammonia in the latter for a couple of years. When strictures are present, they should be treated with metallic sounds. For the relief of cystospasms, the above mentioned solution may also be employed; one or two injections a day, continued for an average period of three months, usually suffice to entirely cure this condition. Frictions with cold water and lukewarm (26° R.) sitz-baths may be employed as adjuvants.—*Mittheilungen d. Wiener med. Doctoren-Collegiums*, June 23, 1881.

Operative Cure of a Case of Hernia of the Umbilical Cord in a Girl of Sixteen Days.—At a recent meeting of the Medical Society of Vienna, Breuss exhibited a female infant, with the following history:

At birth, an umbilical hernia was noticed. Reduction having been accomplished without opening of the sac, the neck of the latter was compressed with small hæmostatic forceps, after which the sac, which was afterward found to contain recently inflamed peritoneum, was cut off, the stump ligatured, cauterized with a Paquelin thermo-cautery, and then covered with a Lister dressing. The operation was performed twenty hours after birth, and was well borne. On the eighth day, the pedicle being clean, the ligatures were removed, and now there is to be seen at the site of the hernia only a small, granulating stump, which is not even protruded when the infant cries or strains.—*Allgem. med. Centralzeitung*, June 22, 1881.

Pilocarpin in Uræmia following Scarlatina.—Preetorius reports (*Allgem. med. Centralzeitung*, June 25, 1881) eleven cases of uræmia after scarlatina, which were treated in the clinic of Prof. Kohts, at Strasburg, by injections of muriate of pilocarpin. Five of these patients were entirely cured, a sixth died five months later of diphtheria. These results must be regarded as very favorable, especially when we consider that in the five fatal cases severe complications were present, such as pneumonia, pericarditis, etc. To avoid collapse, Praetorius advises beginning with a small dose of the remedy, and injecting one-half milligramme five minutes later, if sufficient action have not manifested itself. Like Demme, the author concludes that pilocarpin is ineffectual in cases of extensive glomerulo-nephritis, and that it acts not only as a diaphoretic, but as a direct stimulant of the renal secretion.

Seeman, of Berlin (*Zeitschrift für klinische Medicin*, vol. ii., part 3), has treated nine cases of scarlatinal dropsy with pilocarpin, after other remedies had proved useless. Five cases got well, without intercurrent complications, after two or three injections of from 0.005 to 0.01 of the muriate; a sixth developed catarrhal pneumonia after the employment of the remedy, but recovered; in another case the injections were followed by uræmic convulsions, terminating favorably; another patient was twice attacked by bronchitis after the use of the pilocarpin; while the last case, one of scarlatina, with subsequent diphtheritis and nephritis, with enormous dropsical effusion, was attacked by pneumonic symptoms after the second injection, and the third injection was followed three days later by fatal pneumorrhagia.

The author seems inclined, in these cases, to consider *post hoc* equivalent to *propter hoc*, and for the following reasons: in the patient who was attacked by uræmic convulsions, the dropsical effusions probably contained (as has been shown in similar cases by Voit and others) considerable quantities of urea; the profuse diaphoresis incident to the employment of pilocarpin led to the rapid absorption of the dropsical fluid then overloading the blood with urea; hence the convulsions. As regards the three cases complicated with inflammation of the respiratory tract, it must be remembered that the employment of pilocarpin is immediately followed by "excitation of the nerve fibres, inhibiting the tonus of the peripheral vessels," that is, the peripheral vessels dilate, the current of blood slows up as a consequence of the lowered arterial pressure, so that the tissues are bathed in a superabundance of blood-serum. These conditions lead to increased secretion, sometimes also to stagnation of blood and disturbances of nutrition; in some cases even to rupture of the vessels, as has been observed by Ohms and G. Lewin.

Seeman, therefore, advises: 1st, that pilocarpin should be used only in obstinate cases of scarlatinal dropsy; 2d, that, when the favorable effects of the remedy have once manifested themselves, one should not endeavor to bring about a too rapid absorption of dropsical effusions, lest uræmic symptoms develop, but should allow nature to complete the cure; and, 3d, that whenever pilocarpin is employed, the condition of the respiratory organs should be carefully watched, and the drug should be set aside as soon as it is found that expectoration is not sufficiently energetic to expel the abundantly secreted mucus, or whenever the first symptoms of pneumonia are detected.

Thrombosis of the Inferior Vena Cava.—In the *Charité Annalen*, vol. vi., 1881, Henoch narrates a case of the above in which the symptoms were such as to enable the diagnosis to be made *intra vitam*. The patient, a boy of seven years, had a mild attack of scarlet fever in August, 1877, and had suffered ever since from diarrhœa, becoming greatly emaciated. During February of the present year, marked œdema of the inferior extremities, scrotum, and penis, set in. At the same time the superficial abdominal veins, particularly in the epigastric region, became greatly dilated. The urine was diminished in quantity, free from albumen, and microscopically normal. Physical examination of the chest and abdominal viscera disclosed nothing abnormal. The œdema became more intense and spread over the skin of the belly and lumbar regions, while the veins on the abdomen, and down as far as the dorsum of the foot, formed thick blue cords. Fever of a remittent type set in, and, on March 2d, death occurred. At the autopsy the vena cava inferior was found converted into a solid cord, the thrombus extending into the iliac veins, and from here into the peripheral veins. Numerous tubercular ulcers were found in the intestines.

The fact that the liver was not enlarged during life showed that there was no obstruction at the point of entrance of the hepatic veins into the inferior vena cava. The absence of any signs of passive renal congestion proved that the thrombotic process was very slow and gradual, allowing sufficient time for the establishment of collateral circulation be-

tween the veins of the renal capsule and the vena azygos. It was evidently a marantic thrombosis due to cardiac weakness, coagulation commencing in the lower extremities and gradually extending centrally. —*Allgem. med. Central Zeitung*, June 25, 1881.

ASCITES IN CHILDHOOD.—Seiler communicates the histories of four cases of ascites occurring in children between the ages of four and fifteen years, and characterized by the presence of a large amount of free, clear, sero-albuminous fluid in the peritoneal cavity, great enlargement of the liver, absence of pain and fever, and good general health. The affections during the course of which ascites develops may be classified under two heads, leaving out of consideration that form which is a concomitant of general dropsy, and such rare conditions as ascites chylosus and fatty degeneration of the peritoneum. 1st, Localized disease of the peritoneum; 2d, Interference with the circulation in the portal vein. Tubercular peritonitis belongs to the first class; it may occur in children, but the morbid process rarely remains confined to the peritoneum, and it is usually, if not always, associated with fever of an irregular type, with sudden and severe remissions, or with a subfebrile state lasting months. Sometimes, however, fever may be absent for several weeks or months, and tuberculosis of other organs may not be discoverable, but characteristic emaciation is always present, as well as some degree of abdominal tenderness. A second disease of this class is primary carcinoma of the peritoneum: it is characterized by hemorrhagic exudations of a cherry-red or dirty brown color. As regards chronic idiopathic peritonitis, Seiler is inclined to doubt its existence. To the second category belong first carcinoma and sarcoma of the liver; as far as the author knows, no instances of this disease have been met with in childhood. Syphilitic gummata cause ascites only when they are so situated as to compress the portal vein at its entrance into the transverse fissure. Birch-Hirschfeld, Virchow, and the author, have described such cases. The third and most important form of hepatic affections which produce ascites, is cirrhosis. It is very doubtful, however, whether genuine instances of this disease occur in childhood (Gerhardt: "Diseases of Children"). Cases described as such are probably of syphilitic origin. Taylor (*British Med. Journal*, January 5, 1880) believes that the cases collated by Wickham Legg (*St. Bartholomew's Hospital Reports*, 1877) are instances of late congenital syphilis. Simonds (*Archiv. fuer kl. Med.*, 1880) asserts that there is no anatomical difference between hepatitis syphilitica and cirrhosis. Clinically, the hypertrophic stage of cirrhosis of the liver is not distinguishable from diffuse syphilitic hepatitis so long as the only recognizable symptoms are ascites and enlargement of the liver. Seiler was thus led to infer that his above-described four cases belonged to the class of diffuse syphilitic hepatitis, and he treated them accordingly. He first drew off the fluid by tapping, and then prescribed inunctions of mercurial ointment with the internal administration of iodide of potassium and tonics. The results were excellent. Ascites did not recur, and the liver rapidly diminished in size until its dimensions were normal. Two of the patients were seen several years afterward, when they were found to be in perfect health; the other two disappeared from observation. The author finally arrives at the following conclusions: 1st, Ordinary ascites in children depends, whenever tuberculosis can be excluded, upon diffuse syphilitic or circumscribed gummy hepatitis, even when other signs of syphilis are absent. The cases that have hitherto been reported belong to the category of syphilis hereditaria tarda. 2d, The disease is always curable by mercury, iodine, or a combination of the two. The only other possibility is that there occurs in childhood a simple hypertrophic cirrhosis of the liver, which is susceptible of cure.—*Berliner klin. Wochenschrift*, June 27, 1881.

CASE OF RETRO-UTERINE HÆMATOCELE TREATED SUCCESSFULLY BY MASSAGE.—Succinctly stated, the patient was a woman, twenty-seven years old, about two months pregnant, who, after taking various drugs, resorted to an electric bath for the purpose of inducing abortion. A full current from sixty large Daniell's cells was used, one pole being placed on the sacrum, the other at or just within the vulva. The procedure was quite painful, and was followed by slight bloody discharges. A few days later, on March 13, the patient was seen by Dr. Rosenstein, who found an abortion in progress, and a very large retro-uterine hæmatocele. The former terminated after a day or two in expulsion of the ovum, while the latter attained an immense size owing to negligence on the part of the woman, who got up and walked about against advice. By May 2d the hæmatocele had become hard and immovable, and was as large as ever, filling out the iliac fossæ and abdomen as high as the umbilicus. Poultices, inunctions of iodoform, etc., had proved ineffectual. Rosenstein then resorted to massage, introducing two fingers of the left hand into the vagina and gently pressing against the swelling, while the right hand was employed in stroking and kneading the tumor from without. The sittings were given at first twice a day, afterward once a day, fifteen minutes at a time, and after the lapse of about six weeks the exudation had entirely disappeared, the uterus being freely movable. —*Centralblatt fuer Gynœkologie*, June 25, 1881.

THE ABSORPTIVE POWERS OF THE BLADDER AND URETHRA.—Maas and Punier have performed experiments on animals and men, which demonstrate conclusively that the bladder, whether healthy or diseased, as well as the urethra, possesses the faculty of absorption in a greater or less degree, varying with the substance used. Their methods when experimenting on animals were as follows: The bladder was fully exposed, both ureters tied about one ctm. above their termination, then divided above the ligatures and the urine conducted outside of the body by means of glass canulas introduced into the central ends. The bladder was then evacuated by a catheter, through which the solution experimented with was injected, the catheter withdrawn, and a ligature drawn tightly around the urethra between the prostate gland and the neck of the bladder; sometimes after tying ureters and urethra the bladder was emptied by a Pravaz syringe, the medicated solution injected through the canula of the latter, and the puncture closed by ligature. In a second series of experiments the abdominal cavity was not opened, but, after drawing off the urine, the solution was injected through the catheter, and the mouth of the latter plugged. The substances used were ferrocyanide of potassium, salicylate of soda, cyanide of potassium, strychnine, atropine, curare, apomorphia, and pilocarpin. All of these substances were absorbed, but some so slowly that their physiological action was not manifested; thus atropine seemed to have no effect upon the animal, but a small quantity of its urine collected during the continuance of

the experiment and instilled into the eye of another animal, rapidly caused dilatation of the pupil. The diseased bladder was also found capable of absorbing the same substances. In their experiments on man, Maas and Punier used iodide of potassium and pilocarpin. As regards the excretion of the former, they call attention to the fact that in some individuals it rapidly passes off by the urine, in others by the saliva, and in others by only one of these paths to the exclusion of the other. The method used was the following: Taking only individuals with healthy bladders, the latter were evacuated by a Nélaton catheter, after which in twenty-eight cases they injected fifty grammes of a ten per cent. solution of iodide of potassium, following this up in thirteen other cases with an injection of one or two centigrammes of muriate of pilocarpin half an hour later. The iodide was detected in the saliva in fifty-seven per cent. of the first, and seventy-seven per cent. of the second series, but usually in small quantities only. The diseased bladder was found to absorb much more promptly; iodide of potassium was detected in the saliva when only 2.0 were used. A solution of 0.04 morphine in 2.0 aq. destill. used in this way, acted very plainly as an anodyne. Pilocarpin made up into a bougie with cacao butter, and introduced into the urethra (both healthy and diseased), manifested its specific effects.—*Centralblatt fuer Chirurgie*, June 25, 1881.

Diaphragmatic Hernia.—Lacher has made a careful study of this subject, based upon two hundred and seventy-six cases collected from various sources, to which he adds three cases from his own practice. Following Cruveilhier, he recognizes two main divisions, congenital and acquired. Of the whole number only ten per cent. were true diaphragmatic herniæ, that is, were enclosed in a hernial sac. The left side was affected five times as often as the right. This is due, not as has been previously supposed, to the greater weakness of the left half of the diaphragm, but to the support given by the liver, the greater length and firmness of the right crus, as well as to the absence on the right side of such openings as the aortic and œsophageal foramina. The fleshy portions of the diaphragm offer less resistance to the escape of abdominal viscera than the tendinous parts. The weakest points are the interstices between the muscular bundles, the triangular space immediately behind the sternum (so-called Larrey's space for puncture of the pericardium), the foramina Bochdalecki—more patent on the left than on the right side—and the œsophageal foramen. No case is recorded of hernia through the foramina for the aorta and vena cava inferior. When the cause is traumatic, the margins of the hernial opening are torn and ragged; in other instances, especially when congenital, they are smooth and callous. With the exception of the genital apparatus, every one of the abdominal viscera has been found in the thoracic cavity, the stomach and colon naturally occupying the first rank. In congenital cases the ratio between males and females is about equal. The acquired variety is more common in males, probably because of their occupations and mode of life. No new etiological points are presented. As regards symptomatology, there is a wide difference between chronic and acute cases. The former very often remain latent, while the latter, when death does not occur immediately as the result of the injury, are characterized by violent pain in the epigastrium, intense dyspnœa and cyanosis from compression of the lung and displacement of the heart, unequal expansion of either half of the thorax, small and frequent pulse, nausea, vomiting, etc. If the symptoms have abated, they may again be occasioned by any increased tension of the intestinal tract following errors in diet, muscular exertion, etc. For these reasons the prognosis must always be dubious, even when the hernial opening is ample in size and the symptoms have been quiescent for years. In acute traumatic cases, Lacher imagines that laparotomy under antiseptic precautions may with propriety be performed.—*Centralblatt fuer Chirurgie*, July 2, 1881.

Alcohol: Its Therapeutical Uses Internally and Externally.—Bartholow's paper on this subject, read before the Philadelphia Medical Society, and published in the *Medical Times*, July 16, 1881, contains a number of interesting points. As a stomachic tonic, he says, alcohol is effective only in the case of those not habituated to its use. It should be given properly diluted, and administered immediately before meals, in order to stimulate digestion; for the action of alcohol as a stomachic tonic consists in the power it has to cause a prompt congestion of the mucous membrane, and the increased activity of the gastric glands is a necessary consequence. A catarrhal state of the mucous membrane is produced, and a pathological secretion obtained by long continued use. When alcohol is used to promote the nutrition in general, it should be administered during and after meals. The quantity should be sufficient to stimulate the gastric glands, and yet short of the strength necessary to precipitate the pepsin. The amount required in wasting diseases—as in chronic suppuration and in phthisis—will be more, and it will be better borne than in other chronic maladies of a depressing kind. The best results are derived from half an ounce to an ounce of whiskey or brandy, taken during or immediately after meals; for thus the stomachic tonic effects and the full value of alcohol as a food are obtained. Amylic alcohol has no specific action in consumption. In certain diseases of the digestive tract, alcohol in its various forms is highly useful. A tea- to a tablespoonful of raw brandy will sometimes check obstinate vomiting, not dependent on inflammation of the stomach. In the vomiting of uræmic intoxication, and especially of yellow fever, a dry champagne, or our native sparkling wine, may be very successful. A simple diarrhœa may be checked by brandy. In cholera infantum we have in brandy the most generally efficient curative agent. Infants bear a relatively larger quantity of alcoholic stimulants, but it is not known that large doses of brandy are singularly efficacious in this disease. Dr. Bartholow has given half a teaspoonful to a teaspoonful of cognac brandy every three hours to a child under one year, and above that, to three years, one to two teaspoonfuls. It should not be given in milk, but in water as warm as possible, and as remote from the time of food-taking as possible.

In the atonic dyspepsia of the sedentary and the feeble digestion of the convalescent, alcohol is useful in a high degree. A wine of good body and decided bouquet has been found very efficacious in the weak digestion of literary and nervous sedentary persons. In the case of a convalescent, a spirit is preferable to a wine. To the literary and nervous invalid class, the wine proposed is especially grateful, and they are responsive to a high degree. As the wine is to play the part of both stimulant to the digestive organs and a food for the nervous tissue,

the best results are had from a generous wineglassful taken during the principal meal. The kind of wine selected must be determined by several considerations. If the organs simply require stimulation, a good dry sherry or Burgundy may be best adapted to the case; if an excess of acid be present, due to the fermentation of the saccharine and starchy foods, a sweet wine is objectionable, but then an acid Rhein wine of high alcoholic strength—as, for example, the Förster Riesling—may be serviceable in a remarkable degree. For the weak digestion of convalescence, it is well known that a considerable quantity of spirit is borne well, and required. In both groups, but in an especial degree in the nervous and depressed invalid, the effect of alcoholic stimulation is peculiarly grateful and seductive: hence the danger of the alcoholic habit, and the need of circumspection in prescribing a remedy which may be so abused. It is a cardiac and arterial stimulant, acting first by reflex, *i.e.*, the diastolic interval is shortened by its influences; secondly, the power of alcohol to increase the rate of the heart's movement is explained by the fact that the oxidation force generated is utilized by the cardiac ganglia. Small doses stimulate the circulation, large doses have the opposite effect; therefore, to overcome cardiac depression the stimulant must be administered in small quantity, but frequently. In many cases, a wine of good body, highly charged with œnanthic and other ethers, is preferable to a spirit.

Referring to the practice adopted by Dr. Sands, of New York, of inducing alcoholic intoxication as a preparation for the administration of ether or chloroform to prevent shock, Dr. Bartholow regards it as good practice if the heart is sound and the full anæsthetic state is desired. He regards it highly improper to inject brandy or whiskey subcutaneously with a view to stimulate the respiratory and cardiac centres in chloroform or ether narcosis—indeed, it contributes to a fatal result.

The antipyretic effects of alcohol involve more doubtful questions than the therapeutical effects heretofore considered, but the weight of authority is unquestionably in favor of the view that alcohol in large doses depresses the temperature. In the treatment of acute inflammations and fevers we may employ alcohol as an antipyretic to depress the abnormal temperature, or as a support to the circulatory system and a stimulant to the digestive function. In the former case large, and in the latter small doses, are necessary. Alcohol does not compare with the cold bath, with quinine, even with digitalis, as an antipyretic. It does good when the tongue changes from dry to moist, when the stomach can receive and digest more food, when the pulse declines in rapidity and gains in force, when the surface grows moist and cool from hot and dry, when the delirium ceases and an expression of intelligence replaces blank stupor. Alcohol as an antiseptic is well known to be effective in the septic maladies; it must be administered in large doses. There must be maintained, in a certain sense, a saturation of the blood to act on the materies morbi efficiently.

The power of alcohol to coagulate albumen, to suspend the activity of the unorganized ferments, and to destroy minute organisms, lies at the foundation of its external uses. It is a most efficient hæmostatic to restrain bleeding from wounded surfaces. "As an antiseptic dressing to wounds, to prevent the entrance of the germs of putrefaction, to check suppuration, and to promote healing," says Bartholow, "it has scarcely been inferior to the much-vaunted carbolic acid. It is an efficient means for procuring local refrigeration of an inflamed joint or swelling. Injected under the skin in the neighborhood of painful nerves, it has no inconsiderable anodyne power. This property may be utilized for the relief of myalgia and lumbago. It is more efficient than water, used by the method now known as aquapuncture. Enlarged tonsils, hypertrophied thyroid, and glandular swellings may often be slowly reduced and made to disappear by the parenchymentous injection of alcohol. This method is also applicable to the treatment of uterine fibroids."

In the same issue of the *Medical Times*, Dr. Henry C. Wood, in referring to alcohol as a food, has expressed the opinion that in many cases of illness, and in those periods of life when by reason of age the body waxes weak, alcohol is possessed of great virtues. He believes the moderate employment of stimulants is very useful to individuals past the age of sixty years. In the later years of life, even the narcotic influence of alcohol is of great value, easing the restlessness due to slight discomforts, and the suffering of nerve-failure incident to failing vitality. In chronic diseases, malt liquors have both their advantages and disadvantages. They represent food and drink, are less apt to be abused than are stronger liquids, and by virtue of their bitterness have some tonic properties. The tendency to grossness seen in beer-drinkers undoubtedly largely depends upon the solid constituents of the beer which is taken, and seems to indicate the proper medical use of malt liquors, namely, that they are especially to be employed in wasting diseases, *i.e.*, where there is a tendency to the loss of the bodily fat. As the malt liquors contain nutritive material, it is less necessary to give food with them than it is with whiskey or wines.

A Case of Croup Successfully Treated by the Introduction of a Catheter from the Mouth.—In the *British Medical Journal*, May 21, 1881, Dr. J. Wilson Paton has recorded a case of croup, which he claims to have cured by means of introducing a catheter into the trachea by the mouth, instead of performing tracheotomy. The case was a severe one, and would have ended fatally had no operation been performed. Tracheotomy seemed inadmissible, neither the case nor the surroundings being favorable for it. The introduction of a catheter into the larynx is easy and simple, and does not, according to Paton, take more than two or three seconds from touching the tongue with the spoon till the tube is in the trachea. When the tube had been in for forty-eight hours and a half it was removed, and at the end of the third day the child was so well as to be able to breathe freely without the tube, and was quite well before the tenth day after the operation.

Pathogenesis of Scurvy—Treatment by Hydrotherapy.—Dr. Costetti, convinced of the lack of therapeutical effect of other measures vaunted for the cure of scurvy, employs hydrotherapy. From 1873 to 1878 seventy-eight patients affected with this disease entered the military hospital of Bologna; all, even the most aggravated cases, recovered within thirty-seven days. Before beginning the treatment, the author convinced himself of the fact that the patients were without fever or heart disease. He contends that the malady depends upon an atony of the vaso-motor nerves of the skin and muscles, associated with a hemorrhagic tendency.

# THE MEDICAL RECORD:

## A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., Editor.

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## CONCERNING ASYLUM REFORM.

Some criticisms have appeared, in one or two quarters, upon the attempts at asylum reform made here and elsewhere in the last few years. These criticisms have most unjustly misrepresented matters and bear evidences, if not of malice, at least of very great ignorance.

It has been affirmed in one journal that the organization of the Association for the Protection of the Insane was the signal for a decline in the prospects of asylum reform; and various sneers have been uttered regarding the efficiency of that organization. If that society has failed to do its best, it deserves criticism and should receive it. But there is no evidence of this put forward. We shall recur to this matter again; but meanwhile it may be sufficient to quote the words of a presumably unbiassed observer of its work, the President of the National Conference of Charities and Corrections, Mr. Frank B. Sanborn. In his annual address, last July, he said: "It seems to me that the formation of the National Association for the Prevention of Insanity and the Protection of the Insane, which took place last summer at Cleveland, has to some extent operated in the direction which its enthusiastic founders intended. Its task is a hard one, its methods are not yet perfect, nor is the experience of its members so great as it will be a few years hence; but it has made its mark on the public sentiment of the country, at least in this section."

This is a temperate endorsement, but it is enough to inspire confidence and to justify the past support that has been given it.

Some very severe criticisms have been made, also, concerning the Flatbush Insane Asylum, near Brooklyn. As the asylum in which treatment by non-restraint was first completely introduced in this country, its management has excited much attention. Believing as we do that the system of non-restraint is the one commended by reason and sustained by experience, we have praised the boldness shown in introducing it. And we are assured from many quarters that the experiment has been a most decided success. In the columns of a western medical journal, however, some one has used a report, made by the Hon. Ripley Ropes on the condition of the Flatbush Asylum, as the basis of an attack upon the new management. The injustice of this attack, we are assured, is very great. The Flatbush Asylum is greatly overcrowded, some of the buildings are old, and the grounds about them are limited. With these and other disadvantages that belong to all asylums under control of professional politicians, it is not surprising that the management should meet some obstacles and accidents. But the best has been made of a bad matter. The superintendent has the confidence of every one who is really acquainted with the workings of the institution. The complaints made by Mr. Ropes and quoted in the journal aforesaid are directed, not against the superintendent, but against the higher authorities, whose narrow-mindedness and parsimony so cripple the wisest efforts of Dr. Shaw. We are assured by Mr. Ropes that his criticisms did not refer to the superintendent at all. It must have been, therefore, either great ignorance or a petty spirit which could thus misinterpret the report and misapply the complaints. We trust it was the former. It will certainly be a misfortune if the progress in a much-needed reform becomes disturbed by any personal animosities, and it argues little sincerity when philanthropic energy so quickly succumbs to a private discontent.

### THE CASE OF PRESIDENT GARFIELD.

As is quite generally known, the Record intended, in this issue of October 1st, to present to its readers a surgical history of the case of President Garfield by his attending physician, Dr. D. W. Bliss, of Washington, D. C. Every endeavor has been made to prepare this report by the time expected, but the accomplishment of the task must be deferred for a day or two longer. Dr. Bliss has been seriously indisposed, but, notwithstanding this fact, has given himself up to the work with a determination to cause as little delay as possible. The moment it is finished it will be placed upon the press and issued in an advanced edition. We expect it to be ready on Tuesday next, and shall publish it on that date in the issue referred to—the issue of that week. In the meantime we have been compelled, in order to follow out the expectations of our subscribers, to go to press at once for the issue of this date.

It is unnecessary under the circumstances, perhaps, to apologize for the delay in this number, as up to the last moment we had hoped to use in it Dr. Bliss' report. As it is, there will be no possible interruption to the advanced publication of our next.

We have thought it more desirable also, and in better keeping with the great importance of the subject to be considered, to give Dr. Bliss a day or two longer for his work, than, for the sake of being prompt as to date, to have it go out in a condition not entirely satisfactory to him. We can assure our readers that Dr. Bliss is sparing no pains in giving all the salient points in the case, and in working it up in a most thorough manner from the standpoint of the medical attendant. It is also proper to state that the article will be copiously illustrated by drawings, taken under the supervision of Dr. Bliss, by Mr. Max Cohn, directly from the specimens, and that other articles bearing on the President's case will appear in that issue. The issue to be referred to is practically a delayed issue of that of October 1st, and will be in no manner delayed by the issue of the former.

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### FUNCTIONAL MURMUR IN THE PULMONARY ARTERY.

Among the different kinds of cardiac murmurs, those originating in the pulmonary vessels have by common consent been considered as of rare occurrence and secondary importance. Dr. Nixon, however, in the current number of the *Dublin Journal of the Medical Society*, has recorded a series of observations tending to show that a functional murmur occurs quite frequently in the pulmonary artery. The observations of the author certainly deserve consideration, if only to call the attention of others to his rather novel claim. It would appear that this murmur may occur in many febrile affections. Thus, Nixon has frequently heard it in acute articular rheumatism, in typhoid fever, and in bronchitis. But he has likewise observed it in nervous diseases and in conditions of general debility. Finally, he states that it may be met with even in certain affections, which, in themselves trivial, nevertheless give rise to impaired nutrition. By a number of rather plausible arguments he explains why the sign has been hitherto so often overlooked or misinterpreted. He believes it to be caused by a diminution of tension in the artery itself. This would permit a twist or construction to be formed at its root during the ventricular systole.

While, therefore, this pulmonary murmur, admitting the comparative frequency of its occurrence, cannot in any sense be regarded as pathognomonic of a special disease, its presence may, nevertheless, serve to draw attention to the existence of a perhaps otherwise unsuspected malnutrition. For this reason it is well that we should be on the look-out for its presence. But, before we can class it with symptoms better known and more completely understood, we need corroborative evidence from others as to the frequency of its occurrence and the fact of its symptomatic significance.

### THE AMERICAN GYNECOLOGICAL SOCIETY.

The sixth annual meeting of this prosperous society was held in this city, beginning on Wednesday, September 21st, and continuing three days. The sessions were held in the Library Hall of the New York Academy of Medicine, and were well attended. The address of welcome was made by Dr. Fordyce Barker, President of the Academy, and contained a fitting comparison of the circumstances under which the society met in the same hall five years ago with those under which the present annual meeting was held, overshadowed by the nation's great calamity and loss. The papers, for the most part, had a practical, rather than a highly scientific value. To this general statement there were notable exceptions. The discussions were vigorous, and, as a rule, were not prolix.

The entertainments were all that could be desired. Lunches were given by Drs. Barker and Thomas, Skene and Byrne, and J. Marion Sims; and on the evening of the first day a brilliant reception was given by Dr. T. Addis Emmet. On the evening of the last day a reception was given by Dr. Isaac E. Taylor.

The President, Dr. William H. Byford, of Chicago, was unavoidably absent, on account of sickness; but he sent the annual address, which was well received, and contained words of good cheer for his brethren.

The duties of presiding officer therefore devolved upon the First Vice-President, Dr. Thaddeus A. Reamy, of Cincinnati, who discharged them with dignity and impartiality, and was assisted by the Second Vice-President, Dr. H. F. Campbell, of Augusta, Ga.

In the election of Dr. T. A. Emmet to the office of president the society has gracefully recognized the merit and deserved eminence of one of the most distinguished gynecologists of the New World.

Our readers will be furnished with an abstract of the proceedings at an early date.

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A Case of Prolonged Somnolence that may serve as a companion-piece to that of the sleeping Hungarian in Pennsylvania is reported from one of the hospitals of Niederweisel, in Germany. The twelve-year-old daughter of an innkeeper fell into a deep trance in March, 1880, and continued in that condition for the entire remainder of the year. No medicine was given her, and the small quantity of nutriment that was prescribed had to be administered by forcing her mouth open. She had normal sleep at night, but during the day lay wholly motionless, and apparently without sensation or consciousness. At first much emaciated, her appearance subsequently became fresh and healthy. About the beginning of the present year she suddenly recovered her power of speech, and was soon wholly restored in other respects. She is now entirely well. It is also said that during the whole period of her suspended animation she was fully cognizant of everything that took place about her.

# Reports of Societies.

## NEW YORK PATHOLOGICAL SOCIETY.

*Stated Meeting, September* 14, 1881.

DR. T. E. SATTERTHWAITE, PRESIDENT, IN THE CHAIR.

### INTERNAL STRANGULATION DUE TO A FALSE MESENTERY PROCEEDING FROM A REDUNDANT SIGMOID FLEXURE.

DR. E. C. WENDT presented a specimen which illustrated the above condition in a very perfect manner. He had removed it from the body of a young Spaniard, who had died the night before. The history, so far as he had been able to ascertain it, was as follows: The patient had come to this city from Mexico about two weeks ago. He had always enjoyed perfect health, and was endowed with a splendid physique. About noon on the 7th of September he was seized with a sudden and sharp pain in the right side of his abdomen. During the course of that day it seemed to diminish in intensity, so much so that he is reported to have enjoyed a bath in the evening, and a hearty supper rather late at night. At eleven o'clock, however, he again experienced a very severe pain to the right of the umbilicus. Vomiting now speedily set in, and continued with varying intensity up to the time of death.

Dr. Rengifo saw him on the following day, when purgatives were freely administered and morphine in small doses prescribed. Enemata were also used, but the absolute constipation continued. Meantime, marked constitutional depression was developed; the abdomen became tensely swollen and tender, and the patient's condition grew agonizing. Dr. Cisneros was now called in, and the "purgative plan" continued. The patient growing steadily worse, with unmistakable symptoms of peritonitis, Dr. L. Weber was asked to see the case in consultation. This was on the night of the 12th inst., near eleven o'clock.

Acute intestinal obstruction being apparent, Dr. Weber determined to perform an exploratory laparotomy on the following morning. When Dr. Wendt saw the patient, together with Drs. Weber and Weir, his pulse was already feeble, and, though the abdominal pains had been somewhat controlled by anodynes, the mental stress was great and the general condition far from reassuring. Nevertheless, it was decided to give the patient the chance of life by a speedy operation. But the anæsthetic produced an alarming syncope, and the proposed plan of surgical interference had to be abandoned. Later on that day he again rallied. The tympanitic distention of the intestines was then relieved by several punctures. But the good effects of this measure, together with liberal stimulation, were only temporary. He died that night, apparently exhausted.

At the autopsy the signs of a moderate diffuse peritonitis were found. Recent adhesions, which were readily separable, existed between adjoining abdominal organs. Low down in the pelvis a piece of strangulated gut, showing imminent gangrene, was discovered. The strangulated portion corresponded to the lower end of the ileum, being only about three inches distant from the cæcum. Its length was about seven inches. The cause of the strangulation was found to be a round opening in a false mesentery attached to a redundant sigmoid flexure. Through this opening, which barely admitted the exploring finger, the intestine had slipped and become permanently fastened. The band extended from near the crest of the ileum, on the left side, to the internal inguinal ring on the same side. At the latter point it became lost in a puckering of the pelvic peritoneum.

Dr. Wendt was inclined to regard this thick and completely organized band, which represented the false mesentery, as a congenital malformation. Perhaps it had some connection with the unusual length of the sigmoid flexure, which showed a redundancy of over a foot in length. He thought such a condition of the sigmoid flexure was extremely rare in adults, though Dr. Jacobi had pointed out its comparative frequency in childhood, where it became a frequent source of obstinate constipation.

Doubtless the opening in the false mesentery had existed many years. Certainly there must have been a peculiarly unfavorable constellation of circumstances before the gut could have slipped through such an aperture. It did not appear from the history that any violent muscular effort or other bodily strain had preceded the fatal accident. The case was interesting also from a surgical point of view. The question at once suggested itself, whether the patient's life could have been saved by a sufficiently early operation. Probably the hidden position of the strangulated piece of intestine would have rendered the laparotomy a prolonged and dangerous operation. On the other hand, after a discovery of the mechanical cause of the obstruction, the mere cutting of the strangulating band would have been a very simple and harmless procedure. It was to be deplored that we had no means at our command enabling us to locate with more reliable exactitude the situation of an obstruction, in cases such as the present one.

DR. RIPLEY asked, if, in the treatment of the case, water was used to distend the intestine and remove fecal matter.

DR. WENDT replied that it was, but that no fecal matter escaped; there was only a yellowish discharge. He considered the opening, through which the loop of intestine had passed, to be congenital. The sigmoid flexure, as already stated, was extremely long, assimilating the condition which had been described by Professor Jacobi as a cause of obstinate constipation in children.

DR. PEABODY remarked that a similar case came under his notice some three years ago, the patient dying of an internal strangulation of a diverticulum of the ileum. In this case there was an adhesion uniting a part of this diverticulum with the mesentery, leaving an open space of perhaps two inches, through which seven feet of the intestine, chiefly of the ileum, passed and became strangulated. At the autopsy even it was difficult to discover the lesion, and it was suggested to his mind that any attempt at an operation would have proved unsuccessful. He did not think any surgeon would dare to handle the intestine so freely as was necessary to find the constricting band.

DR. TAUSZKY thought that, in the case reported by Dr. Wendt, the patient might have recovered if the band had been divided, and that the operation was feasible. He had seen reference made to a case in which a German surgeon removed several inches of intestine which was gangrenous, stitched the divided ends together, and the patient, recovered. Without an operation all these patients died, hence any operation which held out even a remote chance of recovery should be undertaken. As regards col-

lapse interfering with the progress of such an operation, he thought the intravenous injection of ammonia might overcome that difficulty. Experiments had shown that it was possible to keep patients alive by this means half an hour longer than they otherwise would have lived, and thus enabled them to converse with their friends. He thought in extreme cases an operation ought always to be undertaken. If the patient was placed with the pelvis elevated as in ovariotomies, the intestine would fall away so as to bring the parts within the pelvis into view.

Dr. White inquired what form of ammonia was used, and its strength.

Dr. Tauszky replied that the ordinary aqua ammonia, diluted one-half with water, was used.

The President inquired if it would not be more difficult to expose the intestine in such a case as reported, than in a case of ordinary ovariotomy.

Dr. Wendt remarked that the small intestine was enormously distended with gas, and he thought the first incision into the abdominal cavity would have resulted in its bulging out of the body. This he thought would increase the danger of the operation. At the autopsy the distention was less than during life, and even then it was difficult to get the intestine back, notwithstanding the ordinary extensive incisions for post-morten examination were made, and it was necessary to make punctures into it before it could be returned.

Dr. Jacobi remarked that Dr. Wendt had alluded to the fact that the sigmoid flexure was very long in the fœtus, new-born, and children generally, up to the age of five, six, or seven, and that this gave rise to very serious constipation. He was not aware that a very long sigmoid flexure was common in the adult; certainly not so long as described by Dr. Wendt. He thought it very probable that the presence of the opening was due to a congenital defect, and perhaps it had something to do with the leaving intact of the disproportion of parts of the intestinal tract. It seemed to him that the connection between the two was not improbable. It was simply a suggestion on his part; he had no explanation to offer, but was desirous of learning whether anything was known on the subject.

Dr. Wendt thought the suggestion a very plausible one. It might be, also, that this band was the result of early fetal inflammation, which finally led to the continuance of the disproportion.

Dr. Jacobi said that he had tried to ascertain if there was an adhesion between the sigmoid flexure and this band, but Dr. Wendt had said there was none; hence the difficulty.

The President thought the appearance of the ring was in favor of its being of congenital origin. It did not look as if it were caused by inflammation; otherwise there would have been inflammatory changes elsewhere. As to the cause of such congenital openings, we knew very little.

Dr. Jacobi presented a specimen of

PULMONARY CONSUMPTION IN THE YOUNG.

There were some peculiarities in the occurrence and appearance of pulmonary consumption in the young. First, it was a statistical fact that, of a hundred deaths from pulmonary consumption, about five or six per cent. occurred below the age of five years; two or three per cent. between five and ten; two or three per cent. between the ages of ten and fifteen; twenty to twenty-five per cent. between the ages of fifteen and twenty-five; twenty to twenty-five per cent. between the ages of twenty-five and forty, and the remaining above forty. There were some peculiarities which it was not worth while to overlook. Among these was the fact that the destruction of pulmonary tissues was not so extensive in the young as in those advanced in age; that children died before they developed large cavities. As a rule, the symptoms belonging to large cavities, and all the other anatomical conditions of pulmonary disease, were not so noticeable in children as in those advanced in years. Another point might be that hemorrhages in children were not so frequently among the clinical symptoms, and particularly hemorrhagic infarctions were by no means common; they were rare.

A specimen of lung was presented, taken from a child between the ages of ten and eleven, who had been admitted to the doctor's ward in the hospital, discharged, readmitted, and finally died in the hospital. There was one peculiarity about the child that appeared to have marked him out for pulmonary trouble. He had, in contradistinction to his family, who were healthy, a narrow chest, due to excessive shortening of the cartilages of the ribs, particularly in the upper part. It was known that early ossification had a tendence to end in pulmonary disease, simply because the development of the chest was defective, and in advancing years the lungs could not expand. This, he believed, had been proved by no one better than by Freund, some fifteen years ago. There was no ossification in the case reported, but the cartilages of the ribs were excessively shortened. In the early part of the attack there was considerable dulness above the clavicles, toward the median line, attributed to and dependent upon great swelling of the bronchial glands. He should have further said that miliary tubercles were rarely found during the first year of life. Afterward they were for some years more frequent.

In examining the specimen presented, the first thing noticed was the implication of the pleura all around, diaphragmatic as well as pulmonary; second, the density of the lung-tissue. In the upper part of the apex was a cavity lined with a pyogenic membrane. Several cavities contained a considerable amount of dry, dense hemorrhage. In one cavity, very near the pleura, with no pyogenic membrane surrounding it, there was a fresh deposit of coagulated blood. In the midst of a good deal of hard tissue were found many small cavities—dilated bronchi. A number of other cavities were the result of hemorrhage which had taken place at some previous time. Very few of the adjoining glands but had undergone hyperplastic enlargement and pigmentary discoloration, and showed the beginning of caseous degeneration. The walls of the bronchial tubes were very much thickened. The child had been sick a number of years, and had had plenty of time to develop the different sorts of bronchitis and peribronchitis. The patient had suffered from a complex condition: first, from scrofula and general adenitis, from caseous pneumonia, bronchitis, dilatation of the bronchi, hemorrhagic infractions, and excessive chronic pleuritis.

Dr. Peabody inquired what was the condition of the other lung.

Dr. Jacobi replied that there was a great deal of peribronchitis, but no large cavities.

Dr. Ripley inquired if there were strong adhesions to the chest-wall.

Dr. Jacobi replied that the adhesions were particularly strong, so that in removing this lung a rupture took place.

Dr. Ripley asked which of the lesions was supposed to be primary.

Dr. Jacobi thought it probable that pneumonia was the original lesion, as in the beginning of his observations the superclavicular dulness was noticed, and had been permanent.

Dr. Ripley thought the specimen presented resembled several which he had seen, in which the original lesion was pleurisy. He had reported a case in which the original lesion was subacute pleurisy. The patient had empyæma. Finally, the fluid was absorbed, and after a year or so a cough was developed. The patient was admitted into the hospital, and finally died. At the autopsy a condition very similar to the one presented in the specimen exhibited was found. The lungs were peeled off from the ribs, the impression of the latter remaining in them.

### SOME POINTS AS TO THE DIAGNOSIS AND PROGNOSIS IN CARCINOMA, ADENOMA, AND SARCOMA OF THE MAMMA.

The President presented a large number of microscopic slides illustrating cases of these and other changes in the breast. He observed that, in hastily looking over his notes and taking account of one hundred and one growths and conditions simulating them, as occurring consecutively, the following figures were found to represent their comparative frequency: Scirrhous carcinoma, 80; medullary carcinoma, 3; colloid, 2; sarcoma, 4; cysts, 4; adenoma, 3; fibroma, 3; gumma, 1; chronic abscess, 1; total, 100.

He first showed microscopic sections of a scirrhous carcinoma, which was worthy of some attention. The history of the case was as follows:

A. M. R——, now sixty-three years of age, formerly a nurse in St. Luke's Hospital, first detected a nodule in one breast in December, 1873. It was removed in the March following by Dr. George A. Peters, and has never returned. Her health also is good. She has therefore enjoyed an immunity for more than seven years. This example of an operation performed three months after the inception of the disease argues well for the prevailing theory that early operations tend to increase the expectation of life.

A still more remarkable case, however, was that of a lady now living in Orange, N. J., from whom a mammary tumor was removed by the operator already mentioned, in 1876. With her the disease appeared nine and a half years ago. But this case has been surpassed by one occurring in the private practice of Dr. Weir, where, at last accounts, the disease had persisted for more than sixteen years, the patient having undergone several operations, but still preserving fair general health. In this connection it was interesting to know that he had found the average duration of life in scirrhus, in the various parts of the body accessible to the knife (fifteen cases), to be about twenty months.*

#### SARCOMA OF THE BREAST.

He next exhibited a microscopic slide removed from a patient at St. Luke's Hospital, Feb. 19, 1873. The history was as follows: About two years before admission, the patient observed a small lump in the lower part of the right breast. It grew gradually in size, but gave no pain until the latter part of January, 1873.

On examination the following points were noted: the breast surface was nodular, but the skin was nowhere broken, and there was no retraction of the nipple. It was also freely movable, except at one point, where it seemed to be attached to the skin. Pain lancinating, but intermittent; tenderness to the feel. No enlargement of axillary glands. General condition good. The tumor was removed by operation and the patient discharged cured. It was noted at the subsequent examination that in consistency the growth was semi-solid; that it was round, soft, friable, lightly attached to its capsule, contained cysts, and was undergoing softening at the centre, and had a dull, pale color. The cavities contained a glutinous substance.

Microscopically the tissue was composed of abundant rounded corpuscles embedded in a scanty basis-substance, which was occasionally seen to be fibrillated. Remains of duct-structure and vessels were found in some parts of the growth. A qualified prognosis was given in this case, the statement being made that "in many cases there is no recurrence after removal." It is therefore interesting to know that this patient is still in good health and has had no recurrence. Immunity over eight years.

It was added that in another case of sarcoma, of which there was recent information, the patient, a widow, was first attacked in her fiftieth year. It was characterized by dull, stinging pains, and there was discharge of watery fluid. The glands also were enlarged. It was removed July 12, 1872 (Drs. J. L. Little and C. A. Loring).

There has been no return, and the patient merely finds that the cicatrix is apt to be sensitive at times. Immunity over nine years. These facts are interesting now, as we are attempting to classify these mammary neoplasms so that a clinical distinction and prognosis may easily be made. It is well known, however, that both of these points are still wrapped in much obscurity. It will be observed, however, that the nodular outline, semi-solid consistency, discharge from the nipple, which was not retracted, and partial adhesion to the skin, are qualities that have been claimed for sarcoma, while the naked-eye appearances on sections, such as the appearance of a soft, friable, sound, capsulated tumor, undergoing cystic and fatty change, are still further indications that the tumor was sarcomatous.

#### ADENOMA OF THE BREAST.

The President next exhibited slides illustrating an adenoma of the same locality. This neoplasm, it was urged, is more difficult to diagnosticate, either clinically or by the microscope, mainly because hard to differentiate from fibroma. The case was as follows: E. L——, thirty-eight years of age, born in Ireland, single, was admitted to St. Luke's Hospital, March 20, 1880. Eighteen months previously she began to suffer from slight pains in the left breast, and shortly afterward detected a lump, the size of a hickory-nut, in the upper portion. The nodule gave pain at the menstrual epoch chiefly, and extended to the left shoulder and arm. On admission the whole breast was found enlarged and quite red, particularly on its under surface. A special mass, hard to the feel, was detected at the centre. Patient had previously suffered from rheumatism and dyspepsia. There was no discharge from the nipple. The tumor was removed, and has not recurred since. In another instance, where he also had made the microscopical examinations, there had been a recurrence after six years' interval. The hardness of adenoma was thought to be peculiar, and intermediate between sarcoma and fibroma. The outline

* Observations on One Hundred Cases of Carcinoma, by Drs. T. E. Satterthwaite and W. H. Porter. N. Y. Med. Jour., 1879.

was found to be somewhat uneven, but the new formation was intimately connected with the breast. It is also apt to occur earlier than sarcoma. On section it will look lobulated. Discharge from the nipple is not an important sign, as it may occur in sarcoma, adenoma, or fibroma. Its growth is slow. If, for any special reason, the growth assumes any active change, perhaps as the result of an injury, the glands may become enlarged, without, however, indicating that a metastatic deposit has taken place there.

Dr. Tauszky remarked that the President, in describing the difference between adenoma and carcinoma, did not say that in carcinoma ducts were found, and that in adenoma they were absent.

The President said there were two forms of tumor having an epithelial type—carcinoma and adenoma. Adenoma seemed to originate from the ducts—to be, in other words, an extension of the normal duct-structure, though in such cases the new gland-substance was not perforated centrally as ordinary ducts were. Carcinoma, on the other hand, was a perverted growth, which, originating in the epithelium of the ducts, spread from its points of origin through the medium of the lymphatics, and, therefore, assumed the outline of those spaces or channels which form networks throughout the connective tissues.

Dr. Tausky added that he had demonstrated that sarcomatous formations originate in epithelium, as well as in connective tissue.

The society then went into executive session.

## Correspondence.

### HOW TO PREVENT SEDIMENT IN MAGENDIE'S SOLUTION.

To the Editor of The Medical Record.

Sir:—In your issue of the 3d instant, under the heading "Suggestions regarding Hypodermic Injections," Dr. C. Mason, of Peekskill, N. Y., asks: "Now, as to the solution (Magendie's), who can say that they can prevent a sediment from forming when it has been made for a number of days?"

In answer, I would like to state that I can do it without the least difficulty, by adding to the solution (Magendie's) a little carbolic acid, say two drops of the acid to an ounce of the solution.

Since I adopted this combination, about ten years since, I have not had an abscess, nor even a cellulitis, form from the result of a hypodermic injection of morphine. The device was given to me by a member of our profession addicted to the morphine habit by the hypodermic method.

He had been a frequent sufferer from abscesses until he set to work to study the flocculent deposit we are all so familiar with in Magendie's solution, after it has been prepared a few days. This deposit, he said, was a vegetable fungoid, which could be distinctly observed under the microscope, and was, in all probability, one of the irritating causes which light up suppurative cellulitis, in the course of hypodermic injections of this liquid.

I have seen this growth repeatedly under the microscope, and there can be no question about it; it cannot form in a carbolized solution of the drug.

I believe the introduction of this vegetable organism is the sole cause of the inflammatory results of these hypodermic injections, for its destruction, or rather, its absence and prevention, has given me, so far, absolute immunity from such disastrous results. I think many physicians carbolize their Magendie's solutions in this way now, but up to the time I heard of it I never knew it was used, and it was novel to every one to whom I mentioned it.

I have known several "hypodermic morphine takers" whose bodies were marked all over with the cicatrices of abscesses, and who always had one or two points on hand in the process of suppuration, so that they had come to look for them as the thorns to their roses; but, upon prescribing for them this carbolized solution, all abscesses have ceased, and their comfort in the pernicious practice has been complete and abiding.

To those who may fear the toxic effect of the carbolic acid administered in this way, I would say it is positively nil. I have used carbolic acid hypodermically quite extensively in the treatment of acute inflammatory rheumatism, intermittent fever, puerperal septicæmia, and traumatic fever (probably septic), in quantities of two drops in two drachms of water every three hours, without ever having seen its toxic effect. I also frequently prescribe it *per orem* in doses of three or four drops, well diluted, for a variety of conditions, and have never yet seen its toxic effect upon the disease for which it was intended.

I mention these facts in my observations in order to dispel the fear which some may have in using it, even in the minute doses recommended with morphine.

I think if the doctor will try the carbolized solution, he will be spared the labor and annoyance of having to prepare his morphine solution afresh every time he is called upon to use a hypodermic injection of it.

I have just examined the remnants of a three-ounce vial of the carbolized solution. This has been prepared over three months, and there is not a particle of deposit in it.

Yours respectfully,
Walter P. Gillette, M.D.

149 West Twenty-third Street, New York,
September 19, 1881.

### THE SPIDER AS AN ANTIPERIODIC.

To the Editor of The Medical Record.

Dear Sir: The paragraph headed "The Spider's Web as an Antiperiodic," in the Record of July 23d, brought to my mind the story told me by a sailor, who, in the course of his journeyings to and fro upon the Lakes, had frequently to pass through the Welland Canal, which runs through a very malarious district; and upon almost each occasion he found himself possessed of—if not of a devil, at least a cousin-german: an ague, much to the detriment of his health, as well as his exchequer, by the purchase of that potent but high-priced exorciser, quinine.

On one occasion, while dining at a canal-side hostelry, he became possessed of his old-time enemy. A friendly sailor, on inquiring what was wrong, informed him that he would cure him within an hour, and that so effectually that he would *never* have another seizure.

His remedy was near at hand and inexpensive, for, after a cruise around the room, he returned with a lively specimen of the common house-spider, which was to be taken as a living sacrifice to eternally appease that great Goddess of the Shakers, malaria.

He stated it was important you should follow out the directions.

You first catch, not your rabbit, but your spider, place it carefully in the palm of one hand, and with the fingers of the other, gently manipulate him or her (both sexes being, I believe, efficacious) until the legs are well tucked in, and it assumes a pill-like shape, when all is ready for *le grand coup*, viz.: swallow it *alive* with as good grace as you can muster. My informant stated that the dose made him feel rather sick, but that he began to feel better in half an hour; that from that day to this (some years) he has never had an attack of the ague, and that it has proved equally efficacious with many others.

If two grammes of the product of the spider (spider's web) can cure an ague, how much more efficacious should the swallowing of the whole manufactory be?

Is it not quite possible that the family of the Arachnidas may secrete some virus that is antidotal to the poison of malaria? If so, it will merely become a question with the sufferer whether he prefers his ague to this heroic insectivorous remedy.

I am, yours very truly,

ALGERNON WOOLVERTON.

HAMILTON, ONT.

## MASSE'S ANATOMICAL PLATES.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR:—In the MEDICAL RECORD for the 10th instant appeared a notice of the new edition of "Masse's Anatomical Plates," edited by Professor Ranney, and published by us.

Your reviewer states that "'Masse's Manual' is not even alluded to in connection with this edition."

As Masse's name appears in full on the title-page, and also on the back of the book, and as the editor commences his preface by saying that "he has the pleasure . . . . etc., . . . . of presenting to the profession of the United States an edition of the beautiful Anatomical Atlas of Professor J. N. Masse, of Paris," we are at a loss to understand how your reviewer could have misled himself into making so unfounded a statement; and as the statement is calculated to do injury to our editor and ourselves, we must ask you to give equally conspicuous space in the RECORD to this correction.

The omission referred to in the "Publisher's Note," in the first copies of the work sent out, was (as said notice duly stated) of the name of Professor Pattison, the editor of the first American edition.

This omission (which of course should not have occurred) was, however, promptly corrected before any copies of the work had been reviewed.

We regret that your reviewer should have informed himself so insufficiently as to have been led into committing an injustice, but we can of course depend upon your readiness to set the matter right, so far as may now be possible. Yours truly,

G. P. PUTNAM'S SONS.

"A THERAPEUTIC PEARL AT RANDOM STRUNG."—London *Truth* says that a good way to avoid headaches after midnight balls is to dilute the champagne with seltzer. A better way is to dilute the seltzer with a few drops of the aromatic spirits of ammonia. (Signed) D. Hayes Agnew, Frank H. Hamilton, D. W. Bliss, J. K. Barnes, J. J. Woodward, Robert Reyburn, Jane Swisshelm.—*Ex.*

## ARMY NEWS.

*Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from September* 17, 1881, *to September* 23, 1881.

REED, W., Capt. and Asst. Surgeon. Assigned to duty with Light Battery "A" Second Artillery, ordered to leave Washington Barracks, D. C., on Sept. 20, and march to Yorktown, Va. S. O. 165, Department of the East, Sept. 16, 1881.

TAYLOR, A. W., First Lieut. and Asst. Surgeon. Relieved from temporary duty at Fort Lyon, Col., to proceed to Fort Dodge, Kansas, there await arrival of escort conducting Little Chief and his band to Department of Dakota, and report to the commanding officer as medical officer. After reaching Sidney, Neb., on return trip, to proceed direct to Fort Leavenworth, Kansas, and report to the Medical Director. S. O. 188, Department of the Missouri, Sept. 16, 1881.

# Medical Items and News.

CONTAGIOUS DISEASES — WEEKLY STATEMENT. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending September 24, 1881.

| Week Ending | Typhus Fever. | Typhoid Fever. | Scarlet Fever. | Cerebro spinal Meningitis. | Measles. | Diphtheria. | Small-pox. | Yellow Fever. |
|---|---|---|---|---|---|---|---|---|
| Sept. 17, 1881. | 0 | 28 | 43 | 5 | 7 | 58 | 9 | 0 |
| Sept. 24, 1881. | 1 | 33 | 69 | 4 | 7 | 73 | 15* | 0 |

* Two were emigrants.

THE AMERICAN GYNECOLOGICAL SOCIETY.—At the sixth annual meeting of this society, just held in this city, the following papers were read: "Acute Diffuse Hyperæsthesia of the Peritoneum following Minor Gynecological Operations and Manipulations," by Dr. S. C. Busey, of Washington; "Exploratory Puncture of the Abdomen," by Dr. H. J. Garrigues, of New York; "Notes on Cases of Pelvic Abscess," by Dr. G. H. Lyman, of Boston; "Genital Renovation, Particularly by Kolpostenotomy and Kolpoeccpetasis, in Urinary and Fecal Fistules," by Dr. N. Bozeman, of New York; "Forcible Elongation of Pelvic Adhesions," by Dr. E. Van de Warker, of Syracuse; "Esthiomène, or Lupus of the Vulva, with Cases and Colored Illustrations," by Dr. I. E. Taylor, of New York; "Bursting Cysts of the Abdomen," by Dr. William Goodell, of Philadelphia; "Erysipelas in Childbed without Puerperal Peritonitis," by Dr. H. F. Campbell, of Augusta, Ga.; "Expansion of the Bladder over the Surface of the Abdominal Tumors and its Attachment to them, or to the Abdominal Walls as a Complication of Laparotomy," by Dr. T. Gaillard Thomas, of New York; "A Case of Partial Inversion of the Uterus, Caused by a Fibroid Polyp," by Dr. T. A. Reamy, of Cincinnati; "Axis Traction of the Obstetric Forceps," by Dr. A. H. Smith, of Philadelphia.

The following were elected officers for 1882: *President:* Dr. T. Addis Emmet, of New York. *Vice-Presidents:* Dr. G. H. Lyman, of Boston, and E. Noeg-

geratli, of New York. *Council:* Drs. H. J. Garrigues, of New York; James D. Trask, of Astoria, N. Y.; George H. Bixby, of Boston; and G. J. Engelmann, of St. Louis. *For Honorary Fellows:* Tarnier, of Paris; Braxton Hicks, of London; and Winckel, of Dresden, were elected; and for *Active Fellows:* Drs. William M. Polk, C. C. Lee, W. R. Gillette, and F. P. Foster, of New York, Dr. E. W. Sawyer, of Chicago, and Dr. B. B. Browne, of Baltimore. The next annual meeting will be held in the city of Boston, in the third week of September, 1882.

Fighting Unlicensed Practitioners.—Two men, father and son, of the name of Grindle, were recently brought before the police court by Dr. A. E. M. Purdy, who charged them with practising without a license. They both exhibited regular licenses to practise, in which it appeared that they were graduates of the American University of Philadelphia, the establishment run for a long time by Dr. Buchanan. Young Grindle admitted that he had advertised under the name of Dr. Dyer, and it was contended by the prosecution that the defendants each answered to the name of Dyer if any patient called. The specific charge against young Grindle was that on the 13th of August he had prescribed for one McCarthy, but the witness failed to identify him satisfactorily, and the accused said he could prove that on the date mentioned he was in Maine. Both the Grindles were discharged.

Another person named Morant was also brought before the court. He was identified by Charles McCarthy as having prescribed for him on the 15th instant, and given him a bottle of medicine for which he paid one dollar. Morant denied that he had prescribed for McCarthy, and said he had merely given him the medicine under the direction of Dr. Grindle. Justice Morgan required him to give $300 bail for trial. John Lauritz, the man who achieved notoriety some years ago as the bondsman of the notorious Mme. Restell, gave the required security and Morant was allowed to depart.

Two druggists were also brought up, charged with counter-prescribing. They were reprimanded and discharged.

Registration of Vital Statistics in Delaware.—A law has been enacted by the Delaware Legislature requiring the registration of all births, marriages, and deaths in the State.

Consumptives in the Adirondacks.—Two or three deaths from consumption are reported from the region near Lake Placid within a week. Through the summer nineteen deaths are reported throughout the Adirondack region among the cases sent there for benefit. This mortality is probably caused by the great dampness near the lakes, the violent changes of temperature peculiar to the country, and the poor nourishment usually obtained in the houses and camps. Only a few have found relief from this disease in those mountains.

Malaria in New England.—There seems to be strong evidence that malaria is gradually invading New England, passing up the Connecticut Valley. It has appeared in the vicinity of Hartford, of Springfield, and has even been quite prevalent in some of the Vermont towns situated on the river.

The frequent appearance of the disease in an almost epidemic form disproves the idea that malaria is increasing because the health of the people and power of resistance is less.

The Vienna Cases of Gastrotomy for Cancer have all terminated fatally, except one. This is the case operated on by Billroth's assistant, Woelfler, in April last, in which, according to the operator's statement, the malignant disease was confined absolutely to the stomach, all other organs, including the lymphatic glands, being apparently unaffected. As may be imagined, this patient will be watched with anxious interest by all friends of the operation. Woelfler has recently published a monograph, with plates, describing the operation and modifications as performed by Billroth, published by Braumueller & Co., Vienna.—*Cor. Chicago Medical Journal and Examiner.*

Coffee and Sugar.—M. Leven, of Paris, has been making some investigations into the action of coffee on the stomach of dogs. He concludes that coffee alone tends to cause gastric anæmia and indigestion, but given with sugar, such effect is not produced.

Dying in the Hospitals.—The following resolution has been introduced into the Chambre des Députés: "Every physician who shall die in the hospitals, while treating an epidemic disease, will be considered as having died upon the field of honor, and his widow or his children will receive a pension equal to that of the soldier who has died upon the field of battle, that is to say, the double of the ordinary pension."

Under-fed.—According to Mrs. Amelia Lewis, one-quarter of the world is over-fed, one-quarter is is properly fed, and one-half is under-fed.

Our Croton Water, according to Dr. Cutter (*Food and Health*), furnishes just now a microscopical menagerie of the most varied kind. In one week sixty-five different specimens were observed and identified. The peredinium candelabrum and the scenedesmus quadricauda are the names of some of the most aggressive monsters.

What with the resin in his and unspeakable organisms in the drinking-water, the New Yorker has a hard time of it.

The Neurotic Theory of Asthma.—Dr. Burney Yeo (*Practitioner*), in arguing for the view that asthma is a neurosis essentially, concludes with the following: "I would like to point out one analogy with a well known nervous and hysterical phenomenon which has, I think, never yet been remarked upon. I allude to the great distention of the lungs which is observed in many cases of asthma, a distention which has been often thought difficult of explanation; but may we not trace an analogy between this great distention of the lung in asthma and the very remarkable and hitherto unexplained tympanitic distention of the intestines often encountered in some cases of hysteria?"

The Regulations Regarding Antiseptic Treatment at Billroth's Clinic.—According to Dr. Bauer, in the St. Louis *Clinical Record*, these are, more especially in laparotomy operations, as follows: "The *first* rule observed is *scrupulous cleanliness* of the operating and sick-room. If the slightest doubt is entertained as to their purity the rooms are sprayed with five per cent. carbolic acid for several hours. This measure is intended to clear the air in the rooms of bacteria and to precipitate suspended germs. The *second* rule applies to the *thorough disinfection* of all articles of dressing, instruments, the hands of the surgeon and of his assistant, to prevent *contact infection*. The sponges to be used should be new

and soaked for several days in a five per cent. carbolic acid solution. The *third* rule permits but *one assistant*, and he and the surgeon alone are allowed to handle intra-peritoneal parts. The *fourth* rule commands *carbolized ablution* of the abdominal integuments, but excludes the spray during the operation as useless, if not directly noxious, on account of the rapid absorption of carbolic acid by the peritoneum and the consequent danger of poisoning. The *fifth* rule is directed against the danger of *spontaneous infection*."

THE PRESENT RAPID INCREASE OF "ELEGANT PHARMACEUTICAL PREPARATIONS" is criticised by Dr. Leasure, in his address before the Minnesota State Medical Society, as follows: "Some of the new journals are ostensibly medical journals, but are really little more than advertising adventures, to bring into notice certain new remedies, or proprietary mixtures or pills, to the profit of the inventor or manufacturer. Some of these are sent us regularly as specimens, till our tables are littered with testimonials from leading physicians and theologians bearing witness to the efficiency of certain proprietary medicines or mineral waters. Even that much-abused creature, cod-liver oil, is subjected to the tortures of the alembic, and comes to us bespangled like Joseph in his coat of many colors. There has never been one of these tangential offshoots of Hippocratic medicine that has not lopped off some crudity from the tree of knowledge or left some shoot of truth that, properly engrafted, has not borne good fruit in after years."

AN ASYLUM FOR THE CRIMINAL INSANE is being built by the State of Missouri at Fulton.

THE BRAIN OF THE MURDERER REDEMEIR—DIAGNOSING IMBECILITY AFTER DEATH.—The case of the murderer Redemeir has excited much interest in St. Louis. The man had always been quiet and peaceable, but taciturn. One day, without apparent motive, he took out a pistol and shot a brother workman, killing him at once. On trial, the plea of insanity was unsuccessfully urged, and the man was condemned to death. The St. Louis *Clinical Record* took the ground very strongly that it was a case of judicial murder. The brain of the man was obtained and sent to Dr. E. E. Spitzka, of this city. His conclusions, from a careful examination of it, are as follows: "From the generally low type of cerebral structure, the atypical asymmetry of the hemispheres and the great ganglia, the persistence of an embryonic feature in the occipital lobe, the thickness of the barren cortical layer, and the presence of another anomalous feature in the cortical elements, only one conclusion can be drawn, namely, that the subject from whom this brain was obtained was an imbecile; and in the light of our knowledge of the life history of persons in whom similar anomalies have been discovered, an imbecile who should be classified in that large group of hereditarily degenerated subjects in whom, with the general background of imbecility, are often found either epileptic and epileptiform seizures, morbid impulses or delusions, moral perversion and pathological fury. So far as the photograph in my possession permits of a conclusion, this subject had not only asymmetry of the face, but also the general expression of the subjects of these conditions."—*St. Louis Clinical Record.*

DARWINISM AND THE EXTINCTION OF GREAT MEN.—Dr. Jacoby has recently published a new book entitled: "Études sur la Sélection dans ses Rapports avec l'Hérédité chez l'Homme." It gained the prize offered by the Madrid Royal Academy of Medicine in 1874 for a work on the hereditary influence of selection upon the human race. It may be doubted, however, whether the book can be correctly described as a contribution to Darwinism. Darwin's theory is essentially that of the survival of the fittest and the gradual evolution of higher types, including man himself, from lower organisms. But Dr. Jacoby gives a very appalling explanation of the reason why there are no more Homers and Shakespeares, and one which scarcely seems to harmonize with the theory which evolves the brain of man from the tip of a plant radicle. In brief, Dr. Jacoby's conclusion is that whenever any member of a (human) family becomes illustrious, that family pays by rapid degeneracy and ultimate extinction for the (comparatively) momentary *eclat* acquired. Humanity hereafter will not be the posterity of the powerful, the rich, the intelligent, the learned, the energetic, but of laboring peasants, necessitous *bourgeois*, humble and little people. The future belongs to physical mediocrity; every conquest of intelligence hastens the extinction of the race, and the school board is the precursor of a depopulated world.

DR. CHARLES S. ROY has been made Professor Superintendent of the Brown Institute in place of Dr. Greenfield, resigned.

THE MEDICAL NIGHT-SERVICE, which is organized in twenty arrondisements of Paris, during the year 1880 visited 1,770 patients, of whom 651 were men, 883 women, and 236 children under three years.

ANOTHER FRENCH PHYSICIAN, Dr. H. Clozel de Boyer, has died from diphtheria contracted in the course of his duties at the Paris Children's Hospital.

THE EUROPEAN MESMERIZER, Hansen, who has been giving *séances* before the medical societies of Austria and Prussia, has been forbidden to hold any more, on the ground that he injures the subjects whom he employs.

AN ALBANY PHYSICIAN DROWNED.—Dr. Harris S. Fellows, who had been missing for two days, was found drowned August 31st. Dr. Fellows was identified with the Greenback-National Party, and was well known throughout the State.

ORIGIN OF YELLOW FEVER.—Dr. Manuel Da Gama Lobo, of Rio Janeiro, physician to His Majesty the Emperor of Brazil, has been prosecuting some microscopic investigations relative to the land origin of yellow fever. He has found at Vera Cruz, Mexico, and Havana, Cuba, sufficient evidence to warrant him in stating that these localities are fruitful sources of a poison which causes the disease. The toxic agent is derived from a species of infusoria, the *opunsia Mexicana*, which belongs to the family of *bacillæ*.—*Sanitary News.*

THE REGISTRATION LAW IN PENNSYLVANIA—DISCOVERY OF A BOGUS MEDICAL DIPLOMA.—The clerk who has charge of the registry of physicians' diplomas under the new law has been very busy. He has been registering about twenty diplomas a day, and by September 1st had already a list of nine hundred names. There is a fee of one dollar exacted for the registration.

About a month ago a Dr. T. F. A. Reinhardt presented a diploma purporting to come from the University of Wurzburg, Germany. It was duly registered, and a certificate to that effect was handed to

him as an evidence that he had complied with the recent act of Assembly. After the copy had been filed Dr. Hoppin read the document carefully, and noticed that the Wurzburg diploma was literally the same as the Jefferson College diploma, except that where "Jeffersonianis" occurs in the Latin form "Wurzburgi" had been substituted. Such personages as a president, vice-president, and secretary appear on the Wurzburg diploma as officers of the German university. These points struck the registration clerk as decidedly peculiar; so he sent a request to Dr. P. D. Keyser, a graduate of a German university, to please call at the Prothonotary's office and examine the Wurzburg document. Dr. Keyser was convinced that the document was irregular, and it then occurred to him that Dr. Franklin D. Castle was a graduate of the Wurzburg University. So Dr. Castle's diploma was obtained, and the genuine was found to be altogether different from the one offered by Reinhardt. The clerk immediately notified Reinhardt to return the certificate issued to him.

Gentle Peace.—The editor of the Louisville *Medical Herald* has got married, and formally announces that he has abolished the war department of his journal.

Methods of Epilation.—Dr. C. Heitzmann recommends the introduction of caustic potash in solution of water, one to six, or one to four. This is to be introduced with a needle, and applications of cold cream used to allay pain and subsequent irritation.

The following depilatory pomade is given in *La Press Médicale*:

℞. Sodii carbon ..... ʒ j.
Quicklime ..... ʒ ss.
Charcoal powder ..... gr. viij.
Glycerine ..... f. ʒ j.
Lard ..... ʒ viij.
M.

After applying this to the affected parts for ten or twelve days, the skin takes a rose tint, and the hairs may be drawn out without pain.—*Medical and Surgical Reporter.*

Chicago as a Homœopathic Medical Centre.—The push and enthusiasm in other branches of business in Chicago has extended to the medical colleges. A third "allopathic" college is organized, and the two old ones vie with each other to excel in thoroughness. This healthy rivalry extends to the colleges of our own school. The Chicago Homœopathic Medical College is putting up a large building by the side of one of the largest hospitals in the country, as a rival of the largest "allopathic" college in the West. This is a bold move, and one that is arresting general attention. The time is not far distant when its faculty will form part of the staff of the great hospital. The rivalry in thoroughness and clinical facilities is certainly commendable. These features, with low fees, are powerful attractions to students. Chicago is rapidly assuming a front rank as a medical centre.—*U. S. Medical Investigator (Homœopathic).*

A New Method of Producing Local Anæsthesia.—Mr. Thomas Taylor, of the Agricultural Department at Washington, has devised a new freezing microtome, and upon the same principle a new method of applying a freezing mixture to the skin for the purpose of inducing local anæsthesia. The apparatus in both instances consists of a hollow metal cylinder, through which runs a spiral tube. The latter is connected by a tube with a vessel containing a freezing mixture of ice and salt, and bears at its opposite extremity an escape-pipe of smaller calibre. As the freezing mixture enters the cylinder, the fluid which results from the melting escapes through the escape-pipe, so that while in use the apparatus will always be a cylinder filled with a solid freezing mixture. According to Mr. Taylor, the tongue will cling to the apparatus and become anæsthetized in a few seconds. It seems that the ether-spray has had its days of usefulness.—*Cincinnati Lancet and Clinic.*

Ergot in the Treatment of Sea-Sickness.—Dr. T. S. Hopkins, of Thomasville, Ga., writes very enthusiastically in regard to the value of ergot for the relief of sea-sickness, from personal experience in a passage from Philadelphia to Savannah. He considers the following formula as preventive as well as curative:

℞. Ext. ergot fl. (Squibb's), f. ʒ ss.; potass. bromid., ʒ ss.; aquæ, ad. ʒ vj. M. Sig.—ʒ ss. two or three times a day.—*Medical News.*

Recent Philadelphia Appointments.—Dr. De Forrest Willard has been elected surgeon to the Presbyterian Hospital of Philadelphia, vice Dr. H. Lenox Hodge, deceased. Dr. Charles T. Hunter has been appointed Demonstrator of Anatomy, and Dr. J. William White, Demonstrator of Surgery in the University of Pennsylvania. Dr. William H. Parish has recently been elected Professor of Anatomy in the Woman's Medical College. Dr. Henry Leffmann has been elected active member of the Society of Public Analysts of England. The Philadelphia County Medical Society has established a section, or committee, on Clinical Pathology, of which Dr. John B. Roberts has been elected chairman, and Dr. W. H. Parish secretary. This is a new departure in Philadelphia, and seems to have been modelled after the New York Academy of Medicine. It is to be presumed that other sections will be established by the Philadelphia society, if that on Clinical Pathology proves successful.

State Board Examinations.—Of the fourteen applicants for certificates to practise medicine in Illinois, who recently appeared before the State Board of Health in Chicago for examination, all but two failed to pass. There is no longer a royal road to the medical profession in Illinois. The examination on materia medica was the one given at Harvard in 1880, and published in their last catalogue; that on jurisprudence was taken from Dartmouth. Examination was required on nine branches, including hygiene and medical jurisprudence.

Injection Brou.—The following is believed to be the formula of the much-vaunted gonorrhœal injection of this name, taken from the register in the French Public Office:

℞. Zinci sulph ..... gr. viij.
Plumbi acetat ..... gr. xv.
Tinct. catechu ..... ʒ ij.
Tinct. opii aqua ..... ʒ iij.
M.

Alumni Association of the Albany Medical College.—At a meeting of the Executive Committee of the Alumni, the president stated that he had given considerable attention to the matter of prize essays to increase the interest in, and efficiency of, the association. He had concluded to offer an

annual prize of $100, to be called "A Surgical Prize," and would announce as the subject for this year, "Essay on Colles's Fracture: its Pathology and Treatment," to be accompanied with a pathological specimen illustrating the fracture, with or without dislocation of the ulna, or a careful dissection of the hand, wrist, or forearm.

After favorable remarks by members of the committee, on motion of Dr. L. Hale, Dr. Van Derveer, the president, was appointed a committee of one to give the matter further consideration. Subsequently he reported that the heirs of the late Prof. Alden March, M.D., LL.D., desired to give the sum of $100 as an annual "March Memorial Prize," the essay for the coming year to be on the "Pathology and Treatment of Morbus Coxarius." Also, that Mr. McClure, a governor of the Albany Hospital, had decided to give the sum of $100 annually as an "Armsby Memorial Prize," the essay to be on some anatomical subject. That for the coming year will consist of a minute description of the "Genito-Urinary Organs of the Male," together with a carefully dissected specimen of the same.

The president further reported that the heirs of the late Prof. James MacNaughton, M.D., had offered the sum of $100 as a "MacNaughton Memorial Prize," the subject of the essay for the current year to be "Antisepsis in the Treatment of Diseases." And Mr. Joseph Russell, a trustee of the college, offers this year a second surgical prize of $50 for the second best essay on "Colles's Fracture."

Essays and specimens designated by a motto, and accompanied by a sealed envelope enclosed with the same motto, and containing the name and address of the author, must be sent to the Secretary, Dr. W. G. Tucker, by February 14, 1882. The committee to examine the essays for this year will consist of Drs. A. Van Derveer, J. S. Mosher, and Lorenzo Hale, and they reserve the right to reject any or all essays if not deemed worthy.

All specimens are to be deposited in the new museum of the college, properly labelled.

American Dermatological Association.—The fifth annual meeting of this association was held in Newport, R. I., on August 30th and 31st, and September 1st.

Albany College of Pharmacy—Department of Pharmacy of Union University.—The plan for the organization of such an institution has been recently perfected, and at a meeting of the Board of Governors of Union University, a department of pharmacy in the University, to be known as the "Albany College of Pharmacy," was created. With no similar institution nearer than New York, and but ten or a dozen such in the United States, it has frequently been impossible in the past, for those desirous of obtaining instruction in pharmacy, to secure the advantages offered by a collegiate course. Albany is practically the centre of a large portion of the State, and many of those who have heretofore been deterred from attendance upon a college of pharmacy may now, with comparative ease, obtain the advantages which such an institution offers.

The exercises of the college will be held in the Albany Medical College building, the lecture-rooms and laboratories of which are well adapted to its needs. The course of study is modelled upon those pursued in the leading colleges of pharmacy now in successful operation, and includes lectures, abundantly illustrated, upon botany, materia medica, and pharmacognosy, theoretical, general and pharmaceutical chemistry, and theoretical and practical pharmacy, together with practical laboratory exercises. The faculty will consist of the following members: Jacob S. Mosher, M.D., Professor of Botany and Materia Medica; Willis G. Tucker, M.D., Professor of Chemistry; Gustavus Michaelis, Professor of Pharmacy.

The course of instruction is graded, extending over two years, and divided into junior and senior classes, consisting respectively of first and second year students. Each course occupies five months, beginning the first Monday in October and closing about the first of March.

Small-Pox in Philadelphia.—The Philadelphia papers report a continued prevalence of small-pox in Philadelphia. Sixty-two new cases were reported in one week in September.

Death of Dr. Joel Pomeren.—Dr. Joel Pomeren, surgeon of President Garfield's regiment, and widely known throughout his State, died September 15th, at Millersburg, of disease contracted during the late war. He was fifty-six years old.

Another Victim to Yellow Fever.—Assistant Surgeon Green, of the U. S. Marine Hospital Service, died recently at Key West, Fla., of yellow fever. This is the second surgeon in that service who has died at Key West from the fever.

Prizes Worth Striving For.—The Royal Academy of Medicine of Brussels announces a prize to be awarded in January, 1884, of eight thousand francs ($1,600), for the best explanation of the pathology and therapeutics of the diseases of the nervous centres, especially epilepsy, illustrated by clinical data and experiments. If the essayist is successful in making a decided advance in the therapeutics of such diseases; if, for instance, he discovers a successful treatment for epilepsy—he is to receive, in addition to the sum above stated, a second sum of twenty-five thousand francs ($5,000). This money has been placed in the hands of the Academy by a person who does not wish his name to appear.

In Italy, the Academy of Medicine of Turin offers a prize of twenty thousand lire ($4,000) for the best essay on "The Physiopathology of the Blood." This is the Riberi Prize, and is open to the world, but the essay must be either in the Latin, French, or Italian tongue.—*Med. and Surgical Reporter.*

Peritoneal Transfusion of Blood.—This operation, recommended by Ponfick, and sustained by the experiments of Bizzozero and Colzi, was recently performed in Italy, with happy results. The patient was at the point of death from post-partum hemorrhage. Two hundred grammes of blood, drawn from a man, then defibrinated, and injected into the woman's peritoneal cavity, brought about a complete recovery.

Four Testicles.—The *Gaceta Medica Sevilla* mentions a curious case observed by Dr. Cebeira, in the San Fernando hospital. A soldier entered this institution to be treated for syphilis; on examination he was found to have four testicles, more or less involved in the disease, and enclosed in two perfectly normal scrota.

A Foreign Body in the Rectum.—The *Gazzetta Medica di Roma* states that a man, aged forty-eight years, in a fit of drunkenness introduced into his rectum a glass twenty-one centimetres in circumference and nine centimetres in length. Great caution

was necessary in the extraction of this voluminous and fragile body, pushed up, as it was, a considerable distance. The operation having been satisfactorily performed, the patient made a good recovery.

TRICHINÆ IN FISH.—The trichinæ are extending their dominion. At first they were only noticed in terrestrial animals. Now they are found in aquatic creatures. According to the *Goot Herait*, they were discovered in the body of a pike caught in the vicinity of Ostend. Professor Eleutin, of that city, who is much interested in the microscopical examination of fishes, found this one to be filled with trichinæ. Pikes are voracious, and in eating the remains of an animal affected with the parasite they may themselves become the victims of trichinosis, and be capable of transmitting the disease to persons partaking of their flesh.

DEATH FROM SPINAL CYST, UNRECOGNIZED.—Dr. J. Naylor Bradfield sends us the following case: Miss W——, a remarkably well-developed brunette, beginning menstruation at the age of fourteen, and always enjoying robust health, with perfect regularity in the catamenial function from the date of its commencement until near the middle of last September, at which time, and a few days preceding the usual period of her menstruation, she contracted a severe and persistent cold, followed by amenorrhœa, dull pains about the pelvis, and a sense of weariness upon the slightest exertion.

With the seat of greatest suffering located directly over the sacrum, pains shooting up the back, numbness of the lower extremities, nausea, and vomiting, augmented by the ingestion of almost every aliment, and the menses still in abeyance, Miss W. continued about the house until October 28th, when, with the pains in her back increased to a degree of unsupportable agony, and the nausea and vomiting unrelieved by scarcely a moment's rest, she was no longer able to quit her room, and on the evening of the above date took to her bed from sheer exhaustion, in part the result of her inability to receive sufficient nourishment, though in great measure depending on the excruciating pain, from which she had suffered unremittingly since the inception of what she expressed "a very bad cold," and which *cold* she believed was the probable cause of all her local distress.

Obviously deceived in his diagnosis, the physician from the first in attendance (and whom we may designate as Dr. X.) being asked to relinquish his care of the case, declared his opinion to be, that the suffering complained of was in great part imaginary, of really little account in the matter of prognosis, and that a week or two, at most, would certainly terminate the physical disturbance which the patient now bemoaned.

Finding, after the lapse of a few days, that, instead of the favorable issue so confidentially predicted, the patient in truth was surely and rapidly failing, the writer was summoned to see and take charge of the case, Wednesday evening, November 10th. I was scarcely able, upon reaching the bedside of the wretched girl—now wild and haggard with long-continued suffering—to believe her identical with the sprightly creature I had so long known and looked upon as a rare picture of vigorous health.

At the time of making my first visit to this unfortunate case, the suffering chiefly complained of was, as already stated, the sharp and ever-constant pain above the sacrum and across or through the hips, the patient actually writhing with the frightful torture, for which the usual remedies gave no respite or alleviation, the large doses of morphia relieving in a measure the nausea and vomiting, but imperceptibly, if at all, influencing the course or character of her local suffering, the marked peculiarity of the symptoms being a never-ceasing sense of unrest, or nervous agitation, which kept the patient constantly in motion, every instant fretfully changing her position from one place to another, evidently with the purpose of finding some possible spot or posture promising a momentary suspense in the desperate struggle, so rapidly outwearing the physical energies of her wretched existence.

Night and day, without a moment's ease or conscious rest from pain, the poor girl tossed and rolled upon her bed like one in the mortal pangs of a fatal poisoning, now throwing herself to one place, then writhing to another, or rolling to the edge of the bed and lashing the floor with her long black hair, and repeating piteously with almost every breath, "Oh my back, my back! my poor, poor back!" The unequal battle for life continued uninterruptedly, until Friday midnight, November 12 (fifty-four hours from the time of my first visit), when, without a diagnosis, or more than a mere conjecture as to the probable nature and seat of her disorder, death happily put an end to the intolerable strife for which we had found no anodyne or antidote in medicine.

As it had been intimated by some that the trouble was due to pregnancy and that the pains were those of abortion, at the request of the patient and friends, I had made a physical examination of the pelvic organs. The result showed, most happily, the patient's virginity, the uterus being small or imperfectly developed, the hymen a delicate, unruptured membrane, and not the slightest indication of any uterine trouble whatsoever.

Post-mortem by Drs. P. V. Hewlett, A. K. Baldwin, and the writer, made thirty-six hours after death, fully demonstrated the following facts: Pelvic organs entirely healthy (hymen intact and partially imperforate), right ovary containing partly matured ova. Right kidney sound, left one showing slight traces of fatty metamorphosis. Spleen, liver, pancreas, large and small intestine, together with all the thoracic organs, perfectly free from disease. Mucous membrane of the stomach inflamed over a large portion of its posterior wall, and two deep ulcers, the one nearly healed, the other in active operation at the time of the patient's death, were found within an inch of each other, near the centre of the inflammatory patch.

Nowhere along or in close proximity to the spinal column could there be seen, felt, or from any external signs suspected, the presence of spinal disease, the most decided pressure, sharp raps, and various contortions of the body producing in life no further increase of pain.

Believing the gastritis to explain satisfactorily the nausea and vomiting, the important problem next to unravel was the source and cause of the incorrigible suffering, from which the patient had certainly succumbed—a pathological proposition for which the post-mortem had thus far suggested no possible solution. When again and haply referring a second time to the affected kidney, a distinctly marked fulness, or puffing out of the tissues was seen to occupy the space directly behind and for some distance below the normal position of the affected (left) kidney, though apparently unconnected with or referable to its morbid condition, the walls of the cyst being exceedingly delicate, and rupturing upon

slight pressure, with the discharge of two or three ounces of a bloody sero-purulent fluid.

The cyst-cavity would have received an ordinary size goose-egg, and lay directly alongside the vertebral column, in two or three places dissecting up the periosteum, and exposing small plates of denuded bone. The cord itself seemed perfectly healthy, the meninges, however, being slightly congested, and showing patches of inflammatory deposit at a point directly underlying or contiguous to the posterior cyst-wall.

Whatever the origin of the spinal cyst was it is impossible to say.

Without the necessary time for even a partial review of the literature including such cases as the one above reported, it is, if the writer correctly remembers, recorded as a fact by most authors that to exactly fix upon the seat of morbid action in many cases of spinal disease is a matter generally as difficult as experienced in the case of our own unfortunate patient, the negative rather than the positive symptoms being, so to speak, our chief or diagnostic guide in locating spinal disease. Thus Dr. Hilton, in his recent work on "Rest and Pain," writes: "In disease of the spine there is one symptom which almost always stands out most prominently, I might almost say, solicits our right appreciation of it, and that is, local and fixed pain upon the surface of the body, with or without exacerbations, local increase of temperature being absent at this spot. I feel quite certain that, through the medium of this symptom, properly employed, we may be led to the recognition of morbid conditions of the spine long before there is any evidence of disease by palpable deformity."

Causation of the First Heart-Sound.—In a recent memoir, published in the *Tribune Médicale*, Dr. Rosolimos objects to the current theories in regard to the origin of the first sound of the heart. According to the author, its cause is a vibration of the chordæ tendinæ alone, provoked in systole by the movement of the blood through the net-work formed by these cords. He bases his assertions upon experimental researches.

Cocoa a Cure for Morphinism.—*La Independencia Medico* quotes the following case: A lady had been in the habit of alleviating her sufferings with morphine, of which drug she finally took sixteen grains a day. Thirty hours after having taken her last dose, she was found in a condition of great anguish, excitation, and inquietude. During the night chloral hydrate and iodide of potassium were given to allay the excitation and produce sleep. The next day she was very weak and restless, hardly able to speak, and tormented with vomiting; the pulse was 150. The fluid extract of cocoa was administered in doses of a tablespoonful. The first dose had but little effect. The second was followed by a wonderful change; the pulse fell to 85, the countenance assumed color and animation, and the vomiting ceased. The patient began to speak, and was in excellent spirits. She slept almost the half of the following night, awoke refreshed, with a pulse of 75, took breakfast, and digested it well. She continued to improve, rode in a carriage for quite a distance, and left the city next day, taking with her an eight-ounce bottle of cocoa, which remedy she continued to take in diminishing quantities. When she ceased taking it she was enjoying good health, without the use of morphine.

A Remedy for Intermittent Fevers.—Dr. Bruneti recommends, as an efficacious remedy in intermittent fevers, a preparation composed of twelve grammes of the chloride of sodium and one gramme of ferric carbonate. This is to be divided into six doses, to be taken in twenty-four hours. To prevent the recurrence of the malady, one dose a day is to be taken for the following week.

A Resurrection.—Bucharest papers relate the following incident: A young woman died of small-pox, and, pursuant to police regulations in times of epidemics, the body was interred without loss of time. The girl had been engaged to be married, and, accordingly, her relatives had adorned the body of the deceased with the jewels that had been presented to her. These trinkets aroused the cupidity of three individuals, who resolved to desecrate the tomb. The grave was opened, the body taken out, and the jewels removed. During these procedures one of the robbers was, by his companions, accused of cowardice, and to disprove the assertion he launched a terrible blow at the dead girl. The effect was magical; the supposed corpse assumed the sitting posture and begged for mercy; the robbers, however, fled terror-stricken in hot haste. The girl arose and with trembling steps sought the dwelling-place of the curate, who, after a preliminary scare, finally comprehended the situation, and volunteered to prepare her relations for the news. Joy reigned supreme. In consideration of the service they had rendered the robbers were not prosecuted.

A Natural Collodion.—Sr. Filiquier has extracted the fluid found in the gall-nuts adherent to the branches of the ulmus campestris. On several occasions he had made use of the agglutinating properties of this liquid to unite the edges of wounds produced by cutting instruments. The results obtained are identical with those of the officinal collodion.

Hemeralopia in Hepatic Diseases.—In an article upon the above subject, published in the *Archives Générales de Médecine* (April, 1881), Dr. Parinaud makes the following statements:

"Day-vision is a complication of hepatic diseases which is not very rare. It manifests itself by a crisis of variable duration, being influenced by determinate accessory causes. It is seen in chronic affections especially, and particularly in cirrhosis, and appears after the organ has been for some time the seat of the disease. It does not appear to be produced by icterus, but by a peculiar alteration of the blood resulting from derangement of the hepatic function. It is of grave significance. It is probable that in the so-called essential hemeralopia, as well as in hepatic affections, the ocular trouble depends upon blood changes different from those of ordinary anæmia, these changes manifesting themselves in the organ of sight, modifying the secretion of visual purple.

A Splendid Opening for an Enterprising Physician.—According to the *Eco del Comercio*, the legislature of the State of Vera Cruz offers a prize of $100,000 to him who shall present a true antidote for all kinds of vomiting.

Rhodes' Audiphone.—Rhodes exhibited his instrument before the authorities of the National Institution for Deaf-Mutes, at Paris. Prof. Theobald and other deaf-mutes declared that the instrument was of no use whatever.

# Original Communications.

## REPORT OF THE

## CASE OF PRESIDENT GARFIELD,

### Accompanied with a Detailed Account of the Autopsy.

By D. W. BLISS, M.D.,

Washington, D. C., surgeon in charge of the case.

(*With Illustrations.*)

The great interest which has been manifested by the medical public in the surgical history of the case of President Garfield, and my close and direct connection with it as surgeon in charge, from the time I was summoned until his death, imposes upon me the obligation of giving, even at this early date, a general summary of the salient points connected with its diagnosis, treatment, and pathology.

It seems important at this time, in view of an implied demand on the part of my professional brethren throughout the country, that, at the risk of anticipating the complete and technical report, which will appear in due time under the editorial direction of J. J. Woodward, Surgeon U.S.A., and signed by all the gentlemen associated with me, that I should present such data as may serve to give the leading facts of the general plan of management of the case, the reasons for making the diagnosis, and such other points as were developed in its study which may serve to explain the most important autopsical lesions, the report of which accompanies this paper.

Perhaps these conditions can be fulfilled in no better way than by a summary in which the main and important data are given in the form of a general medical history. It is, perhaps, unnecessary to state at this point that I shall not undertake to reproduce the daily bulletins, nor a minute history of the dietetics, as they are not necessary to enable the profession to comprehend the general treatment as applied to the case in view of the erroneous diagnosis made, or to the conditions presented by the autopsy.

Immediately after the shooting of President Garfield, on the morning of July 2d, I was summoned by the Secretary of War to take charge of the case. I was conducted to an upper room in the building, where I found the President lying upon a mattress, in a semiprone position, on the left side. He presented the appearance of perfect collapse, the lines of expression were lost, there was extreme pallor, sighing respiration (about eight or ten per minute); pulse exceedingly small, feeble, and frequent, and ranging about 120. The ingesta lying upon the mattress indicated that he had recently vomited, and upon mentioning the fact the President replied that he had not; but assurances from the physicians and others, with the evidences before me, indicated that the emesis had taken place while he was unconscious. Large beads of perspiration stood upon his face, forehead, hands, and forearms.

There were present at that time Dr. Smith Townsend, the Health Officer of the District, and Dr. Purvis. The former, who was the first physician to reach the wounded President, informed me that he had administered half an ounce of brandy and a drachm of aromatic spirits of ammonia internally. The President's coat had previously been removed; the remainder of his clothing was intact, except that over the region of the wound, which was so arranged as to expose the point of entrance of the ball.

The President complained of a sense of weight and numbness, and subsequently of a tingling sensation and pain in the lower extremities. With a view of exploring the wound to ascertain the course of the ball and the organs involved in its passage, I introduced a Nélaton probe, which took a direction downward and forward, on a line which would represent a point of exit four inches to the right, and nearly directly opposite to the umbilicus. The point of entrance of the ball, which was oval and sharply cut, was on the right side, four inches from the median line of the spine, and on a line with the eleventh rib. A slight discharge of blood was oozing from this orifice, and had soiled the clothing. I passed the probe in the direction previously indicated, through the tenth intercostal space, for a distance of three and one-half inches from the surface of the body, to what appeared to be a cavity, and I was unable to detect any foreign substance beyond the rib to indicate the presence of fragments of bone or the missile. In attempting to withdraw the probe it became engaged between the fractured fragments and the end of the rib, and could not be liberated until pressure was made upon the sternal end of the rib so as to slightly elevate its fractured extremity. I then passed the little finger of my left hand to its full extent into the wound, which developed the character and extent of the fracture of the rib, and was only able to reach a point on a line with the inner surface of the rib, where it came in contact with what appeared to be lacerated tissue or comparatively firm coagula, probably the latter. After withdrawing my finger I made an exploration with a long, flexible silver probe, which I suitably curved before entering, and gently passed it downward and forward, and downward and backward in several directions, with a view of indicating the course of the ball, if it had been deflected by contact with the rib, and meeting with resistance from soft parts I desisted and excluded the probability of deflection, being inclined to the opinion that the ball had entered the liver, which, if true, would not warrant further exploration in that direction.

By this time a large number of physicians had gathered in the room, and I gave to them a hurried account of my examination, and expressed the opinion that no further explorations should be made during the stage of collapse, and that stimulants by the stomach should not at that time be given, as the President was suffering from constant nausea, and in his condition of collapse absorption would not take place, and further that they would become a source of additional irritation. In these opinions, expressed at the council in one corner of the room, the physicians concurred. The gentlemen in attendance at this time, so far as I can recollect, were Drs. Townshend, Purvis, Reyburn, Norris, Lincoln, and Ford.

The President repeatedly requested that he be taken to the White House, and after further consultation and a full understanding of the manner and detail of his transfer, his speedy removal was agreed upon. Temporary dressings were applied to the wound, when the President was lifted on to the mattress, carefully placed upon a stretcher, conveyed down-stairs, and placed in an ambulance in waiting. The vehicle was driven with great care over the

rough pavement of Sixth street, about forty yards' distance, until reaching the smooth asphalt pavement of Pennsylvania avenue. The great rush of people, in the excitement, made it necessary to move rapidly. On the way there was no disagreeable motion in the carriage, which fact is attested by Dr. Townshend and others who accompanied me in the ambulance. On inquiry, the President replied that the motions of the carriage did not give him any discomfort. At the street railroad crossings at Seventh and Fourteenth streets, the vehicle was driven with exceeding caution, and with scarcely an uncomfortable motion. He was then taken in the same manner as before to his room, and placed with extreme caution on the low family bed. The room is known as the southwest or family room of the house. On his arrival thither a careful examination was made of his condition. The pulse continued feeble, frequent, and extremely compressible; the respiration was slow and sighing; extremities and surface cold, with occasional vomiting and profuse perspiration over the entire body; voice husky, with constant complaint of severe pains in the inferior extremities. He was placed upon his right side, so as to make the wound dependent, to facilitate drainage, and keep the viscera in contact with the injured parietes, with a view of preventing further hemorrhage and looking to the possible adhesion of the injured parts to the peritoneum. After consultation it was deemed improper to remove the clothing, as such a proceeding would thus increase the dangers. Water was given in small quantities, often repeated. This was necessitated by the extreme thirst from which the patient suffered.

A hypodermic injection of one-eighth of a grain of morphine and one-eightieth grain of atropia was administered to control the pain in the extremities, and as a more permanent stimulant to assist reaction. The place selected for injection was the dorsal aspect of the forearm. This was about 10 A.M., July 2d.

There was but little change in the condition of the patient, either in temperature, respiration, or pulse, until about 11 o'clock, when it was determined to repeat the morphine in the dose of one-sixth of a grain, the atropia being omitted. This soon had the effect of modifying the pain and discomfort, and the respiration became more frequent and easy. The pulse responded but little to the stimulants. Nausea and vomiting continued at intervals of thirty minutes during the entire day and until 7 P.M., when it became less frequent, with less retching—in fact, being simply a regurgitation of the fluids of the stomach. This condition continued at longer intervals until 6 o'clock the following morning.

At 5.30 P.M., in accordance with a previous understanding with the physicians, the clothing was removed by being cut from the body in such a manner as to prevent any motion or agitation, and to permit the more successful application of dry heat by warm flannels to the entire body, which had been imperfectly accomplished before. Upon examination, a well-defined field of dulness over the region of the wound, thought to be due to hemorrhage in the substance of the liver, along the supposed track of the ball, extended seven and one-half inches anteroposteriorly and five and one-half inches laterally.

The urine was retained until 6 o'clock P.M., when a flexible, velvet-eyed catheter was introduced, and about six ounces of normal urine drawn. During the remainder of his illness the urine was voided without restraint, and frequent careful examinations were made, proving the absence of albumen or other significant abnormal ingredients. A spontaneous evacuation of the bowels took place on July 3d, which was natural in character and free from blood or other foreign matter. After this, and during the entire period of his illness, the President was not subject to diarrhœa, and his movements were either spontaneous or regulated by enemata. The only exception to this was that during the last few days of his illness, occasional small involuntary evacuations took place, which seemed to depend upon the existence of large hemorrhoids, which, from their size and locality, produced dilatation and partial paralysis of the sphincter muscle, the evacuation always occurring in an effort to expel flatus.

At 10 P.M. the pulse was 158, temperature 96.5°, respiration 35, which was the most critical period attending the collapse. At 11.20 P.M. the evidences of reaction began to manifest themselves.

When the pulse had diminished to 120, the temperature had risen to 98° F., and the respiration was 18. The carbolized absorbent cotton which had previously sealed the wound having become displaced, was reapplied.

Until 2 P.M. of July 3d, the variations of pulse were comparatively slight, ranging from 104 to 120, the respiration being normal.

The patient slept at short intervals, generally arousing with an effort at regurgitation of the contents of the stomach, but otherwise expressed a feeling of comfort and gave evidences of rest. During the night he seemed to be refreshed and was comparatively free from pain. There was no time after my first visit, up to this period, that the patient was not perfectly rational, and often made brief, pertinent inquiries as to the character of the wound and his condition.

At the evening consultation, July 2d (7 P.M.), the opinion was expressed by some of the medical gentlemen invited to the case, that internal hemorrhage had taken place, and that he would not survive the night, and expressed these views to the council. The symptoms of profound collapse were so grave that Surgeon-General Wales was induced to express the opinion that the President was dying.

The consultations heretofore referred to were, as a matter of course, held in the adjoining room. Only three or four physicians of the number present were invited to visit the bedside on each occasion to make personal examinations, to verify the reported progress, and enable them to intelligently advise the council.

The gentlemen invited by me to visit the bedside were Surgeon-General Wales, Surgeon J. J. Woodward, and Dr. Reyburn. On that occasion the opinion was expressed that the field of dulness heretofore referred to, the boundaries of which were well defined, was thought to be due to hemorrhage in the substance of the liver, from the passage of the ball into or through it. The opinion obtained, and was so expressed to the council, that internal hemorrhage was then taking place, and that the extreme prostration and feebleness of the respiration were due to that cause, and that the President would not survive the night.

There was some oozing of dark venous blood during the entire night, sufficient to saturate the carbolized cotton and stain the bed. On the following morning the hemorrhage had entirely ceased, and the dressings became adherent to the skin.

All the physicians visited the White House at 8 A.M., July 3d, for the morning consultation, agreeably to a previous understanding that such should be the case if the President survive the night.

At this consultation, Surgeon-General Barnes and Surgeon Woodward, U.S.A., Dr. Reyburn and Dr. N. S. Lincoln, visited the bedside of the patient with me, with a view of making the necessary examinations, dressing the wound, and of reporting results to the other members of the council. The patient was found with a pulse of 115; the temperature was nearly normal, as was the respiration. He was cheerful, gave evidence of being rested, and made definite inquiries regarding his condition and prospects. The use of morphine hypodermically, in doses of sufficient quantities to control the pain in the extremities, was advised, and it was agreed that the patient should, continue to occupy the position on his right side as before directed, so far as was possible; and that the wound should be exposed only when the dressings became disarranged; and that their character should not be changed.

Immediately after the consultation, the subject of medical attendance was considered by the President. The only persons present were, besides the President, Mrs. Garfield and myself. He then formally placed himself under my professional care, and requested me to select my counsel, the result of which is well known. He also desired me to individually thank the large number of physicians who had composed the council up to that time, which I accordingly did.

The primary reaction reached its highest point of temperature, pulse, and respiration, at 2 P.M. on Sunday, July 3d. Slight tympanites was detected, but no pain on pressure, nor any marked rigidity of the abdominal walls. These were the only symptoms which pointed to the existence of peritonitis throughout the whole course of the case, and the spontaneous movement of the bowels, already noted, was an additional evidence that the peritoneum was not involved.

At 10.45 P.M. the pulse had gradually increased in frequency until it reached 120. The temperature remained at 100°, and respiration at 20. At this time Dr. D. Hayes Agnew, of Philadelphia, and Dr. Frank H. Hamilton, of New York, were summoned to visit the patient in consultation. Dr. Agnew arrived about 4 o'clock the following morning, July 4th, and Dr. Hamilton at 6 A.M. They were presented to the President formally at the consultation, 8.15 A.M., July 4th, at which time the pulse was 104, temperature 99.4°, and respiration 19. He had passed a comparatively comfortable night, awakening every twenty or thirty minutes, taking water or liquid nourishment in small quantities each time, and dropping quickly to rest. The nausea had quite subsided, and the pain and soreness of the lower extremities was measurably controlled by the administration of morphia, which was continued in quarter-grain doses each evening, administered hypodermically.

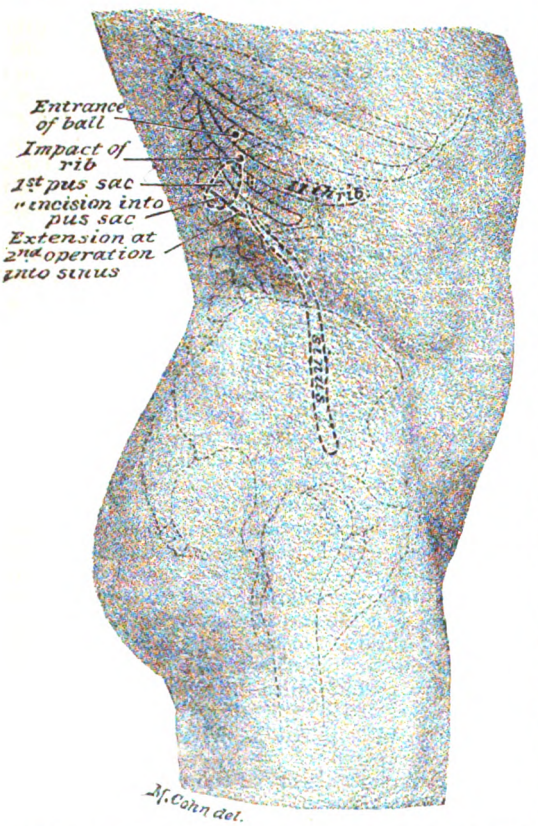
A careful review of the case from the time I first saw the President was given to these gentlemen, with the request that they, with the data before them, examine the case thoroughly, as though it was their own, and freely express their views of the character and gravity of the injury and the course of treatment of the case up to that time. I also gave them a detailed account of the explorations made in the wound, and the unsettled convictions as then held as to the course of the missile and the organs involved in the injury. They individually examined the wound with great care. These examinations consisted in the introduction, in different directions, of probes, flexible bougies, in order, if possible, to determine the course of the ball. With the evidences developed by this personal examination, together with the complete history of the shooting of the President, and the progress of the symptoms for the first forty-seven hours, they proceeded to discuss the possible course of the ball and organs involved, viz., whether it passed directly forward into or through the liver, or was deflected backward at a right angle so as to involve the spinal column, or downward behind the peritoneum toward the pelvic cavity. Carefully weighing all the evidences, the more prominent symptoms upon which the diagnosis was based are presented in the following order: The relative position of the assassin to the President at the time of the shooting, the direction of the ball through the tissues, so far as safe exploration could determine, gradual subsidence or modification of pain and hyperæsthesia of the feet and scrotum; the repeated unsuccessful efforts to pass a probe or flexible instrument more than one-half inch in any direction beyond the fractured rib, except in a direction downward, a little forward and anterior to the twelfth rib, a distance of about two inches. The fact also was considered that explorations had twice been made with the finger—one by myself soon after I reached the injured President, and subsequently by Surgeon-General Wales of the navy, on the occasion of the consultation on the evening of July 2d; and in each instance it was found impossible to successfully explore by that means beyond the inner border of the fractured rib so as to determine, with accuracy, the course of the ball, or even the condition of the tissues indicated by the end of the finger. Nor did they underestimate the significance of the profound shock, nor the unusual period of collapse which followed and seemed to point to extensive lesion of important viscera. However, that the kidneys, intestine, and peritoneum were not immediately involved, was made patent by the unrestrained passage of normal urine at proper intervals, the spontaneous movement from the bowels of natural fæces, the frequent discharge of flatus, and the absence of other symptoms of peritonitis. With all these facts before them it was impossible to determine positively the course taken by the ball. The indications pointed to a downward course of the ball into the pelvic cavity. Upon careful consideration of the foregoing facts and of the opinions expressed by the distinguished counsel, we were inclined to recede from the opinion at first adopted regarding the supposed passage of the ball through the liver. The propriety of making extensive incisions and dissections so as to explore the fractured ribs and remove as much as might be necessary to reveal the true course of the ball, was duly considered. But the opinion was maintained that the favorable progress of the President thus far did not warrant any interference, and, further, such an operation would seriously complicate the case and diminish the prospects of recovery. The facts revealed by the autopsy confirms the wisdom of the course pursued. With this view all the surgeons concurred.

The subsequent history of the case, which proved that the liver, kidneys, the intestines and the large vessels had escaped serious injury, as well as the gradual subsidence of the nervous disturbance of the lower extremities, the almost entire absence of pain in the back or that portion of the body in which the track existed, together with a pus-sac which dissected its course down behind the peritoneum into the right iliac fossa, was but corroborative, and naturally misled our judgments into an erroneous diagnosis.

On the evening of July 4th, the pain, hyperæsthesia, and vomiting had nearly disappeared, soreness of the feet supervening and continuing for some days.

The case progressed, with slight fluctuations, up to July 23d, when a rigor occurred at 7 P.M., followed by a pulse of 124, respiration 26, and temperature 104° F. Two days previous to this a pus-sac was observed in the common integument, extending down below the twelfth rib toward the erector spinæ muscle, and underneath the latissimus dorsi, and was carefully evacuated by gentle pressure into the original opening on the occasion of each dressing. We did not feel satisfied that this superficial and limited collection of pus, which was so readily evacuated, was the principal cause of the aggravation of the symptoms present. However, a free incision was made into the pus-sac, which afforded a more direct and dependent channel to the fractured rib, from which a small fragment of bone was removed.

Pressure made backward and upward upon the abdominal wall, between the umbilicus and anterior spine, gave exit to a flow of peculiarly white and firm pus. I remarked at the time to the council that the appearance of this pus gave assurance that it had never been exposed to the air, and must have come from a deep-seated source.




After this operation the improvement was not as prompt as we had reason to expect, and on the 26th of July the opening between the fractured ends of the eleventh rib was enlarged, and a small detached portion was removed. This facilitated the discharge of pus, and, as a result, a more uniform condition of the symptoms were maintained until about August 6th, when slight febrile exacerbations were observed, which continued to be manifest until the operation was made to afford a more free passage of pus from the supposed track of the ball. The necessity of the operation was more plainly developed by passing a flexible catheter through the opening previously made, which readily coursed toward the crest of the ilium, a distance of about seven inches. This cavity was evacuated twice daily, by passing through the catheter, previously inserted in the track, an aqueous solution of permanganate of potash from a small hand-fountain, slightly elevated, the water and pus returning and escaping at the opening externally. The indications for making a point of exit in the dependent portion of this pus-sac were urgent, and on August 8th the operation was performed by extending the incision previously made, downward and forward through the skin, subcutaneous fascia, external and internal oblique muscles, to a sinus or pus-channel. The exposed muscle contained a considerable number of minute spiculæ of bone. Upon carrying a long, curved director through the opening between the fractured rib downward to the point of incision, there was a deeper channel which had not been exposed by the operation thus far, and the incision was carried through the transversalis muscle and transversalis fascia, opening into the deeper track and exposing the end of the director. A catheter was then passed into the portion of the track below the incision, a distance of three and one-half inches, and in a direction near the anterior superior spinous process of the ilium. The President was etherized during this operation.

A comparatively uniform condition of temperature, pulse, and respiration continued until August 14th, when nausea, vomiting, and general prostration occurred, with an increase of pulse to 108, temperature 100.8° F., and respiration 19—the pulse continuing to increase, although the temperature remained nearly normal up to August 17th, when food was again retained by the stomach. When the previous attack of vomiting took place, August 14th, the stomach was placed at physiological rest, and resort was had to rectal alimentation until August 17th, when the function of the stomach was gradually reestablished and the enemata discontinued.

On August 18th a slight tumefaction of the right parotid gland was noticeable, unaccompanied by pain or tenderness on pressure, until the suppurative period was established, when mental disturbance, vomiting, restlessness, and jactitation supervened; nor was there any increase of temperature, local or systemic, to indicate the probability of its metastatic origin. The parotitis presented many of the characteristics of an ordinary carbuncle, and was unaccompanied by any other abscesses in the adjoining tissue. During the progress of the parotitis facial paralysis occurred, and continued, with slight improvement, until the time of his death. When the climax of suppuration was reached, a free discharge of laudable pus followed, with a rapid abatement of the more urgent symptoms, and after the separation of the slough (which was limited in extent) reparation was rapid and complete throughout the entire suppurating surface, as well as in the several incisions which had been previously made to liberate the pus. These lesions had entirely healed at the time of death, except an opening behind and below the right ear, referred to in the autopsy.

It was a marked feature during this whole period of parotid suppuration, that there was no associate systemic disturbance. The question of malarial complication was discussed at this time, but it must be

remembered that quinine had been given in tonic doses much of the time; and occasionally, when periodicity was noticeable, sedative doses were administered for a period of twenty-four hours at a time.

On August 19th a small slough was discharged from the lower pus-track, when the flexible catheter was readily passed downward a distance of twelve inches toward the right iliac fossa. This channel was kept free from accumulations by passing into it carbolic or permanganate water from the hand-fountain heretofore described, at the same time carefully withdrawing the catheter, so as to avoid undue distention of the track.

During the latter part of August a number of pustules of suppurating acne appeared in the axillæ, and later, four or five on the surface of the body. They were superficial, numbering five or six in each axilla, and about the size of large peas; they were opened as soon as suppuration took place, healed without recurrence, and are believed to have been due to the septic condition of the system. The small carbuncle mentioned in the report of the autopsy was doubtless referrable to the same cause. The above were the only suppurating surfaces, excepting the incisions made into the wound, and four small superficial bedsores formed on the sacrum, which were observed during the President's illness.

The subject of the removal of the President to a more salubrious locality had been discussed for several days, and was urgently presented at the consultation on August 25th. The majority of the council, with myself, considered that his removal at this time would be attended with very great hazard. The hope, however, was expressed that the President might be sustained until suppuration was established in the parotid, and the constitutional disturbances incident thereto had subsided, when it would be possible to remove him. Stimulants were given in doses of ʒ vj. with ʒ ij. of beef-tea, occasionally introducing ʒ j. of beef peptones, alternated with the yolk of an egg. These measures undoubtedly contributed largely to his sustention during this period of continued gastric disturbance.

Our efforts were rewarded on August 26th by a free discharge of pus from the external auditory canal; also in the mouth. It was believed that the pus which discharged in the mouth dissected its way along the course of Steno's duct. There being rigidity of the masseter muscle, the jaw was fixed so as to preclude the possibility of opening the mouth sufficiently for a satisfactory examination. A tenacious mucus was secreted from that side in large quantities, and occasioned great annoyance. The patient during this period was occasionally wandering in his mind, especially after rousing from sleep. When his attention was fixed by an attendant, his mental condition seemed to be comparatively perfect.

An interesting fact connected with the inflammation of the mucous membrane of the mouth was that it extended by continuity to the pharynx, larynx, trachea, and bronchi. The physical signs developed the fact that acute bronchial catarrh was the sequel. Hypostatic congestion of the lungs was observed for some weeks before, more extensive on the right than the left, because of decubitus. On the right side it extended to the sixth rib posteriorly, while on the left side it was comparatively slight. An improved condition was maintained with a free-suppurating condition of the parotid and marked reduction of the tumefaction of the gland.

Finally it was decided by the majority of the surgeons that the President should be removed to the sea-shore. The details as to the precautions taken to secure a safe transit were minute in every particular, and every provision was made to meet any emergency that might arise in the course of the journey—even preparations for his removal from the train to suitable places on the road had been previously selected, in case evidences of exhaustion should become manifest.

His transfer from the Executive Mansion to the cars was made with the least possible disturbance, without accident, and with perfect satisfaction and comfort to the patient. During the journey his pulse and temperature were taken from time to time, and frequent examinations made to determine the effect of the motion at different rates of speed. The minimum of unpleasant motion seemed to be secured at a rate of about sixty miles an hour. During the last hour of his journey he showed symptoms of fatigue, which would have prevented a longer journey, had such been required to reach his destination. His pulse increased, the countenance became slightly anxious, and the temperature measurably exalted at the period to which I allude.

He was transferred from the cars to the Elberon cottage without accident, the pulse at 10 P.M. reaching 124, temperature 101.6°. The morning of September 7th his pulse had fallen to 106, temperature 98.4°, respiration 18. The President expressed great satisfaction that he had arrived at the sea-shore, and, notwithstanding the heat of the two succeeding days, it made but little impression upon the distinguished patient, the pulse, temperature, and respiration continuing the same until September 15th, when his pulse slightly increased in the evening, so that it occasionally reached 120 during the night.

After his arrival at Elberon there was an extension of the bronchial catarrh into the ramifications of the bronchi of the right lung, and limited broncho-pneumonia followed.

I should mention here a fact well known, that the President was so much pleased with his improvement that he expressed that the number of his professional attendants should be reduced. Accordingly Drs. Barnes, Woodward, and Reyburn retired from the case, leaving Elberon the morning of September 8th.

September 17th, at 11 A.M., a severe rigor occurred of half an hour's duration, followed by a sharp rise in temperature. At 12 M. the pulse was 120, temperature 102° F., and respiration 24. The mental disturbances were more noticeable during the febrile rise, but the stomach was able to retain the nourishment and stimulants, which were given at regular intervals in the form of milk-punch. This chill was accompanied by severe pain over the anterior mediastinum, and the President said to me that it was similar to what he understood as angina pectoris. It is evident that this pain, which occurred on several occasions at intervals of six to twelve hours prior to his death, was occasioned by first a rupture of the aneurismal sac, and the progressive dissection, at irregular intervals, of the blood into the surrounding tissue, until finally it burst into the peritoneum.

A febrile rise was very marked by twelve noon of the 17th, attended with great anxiety of countenance, the temperature falling to 98° F., the lowest point of normal range, the pulse being, however, steadily at 102, and rather feeble. While there was, in my judgment, an absence of typical metastatic abscesses to produce this symptom, there was a profound expression of gravity in his condition that was not

commensurate with the systemic disturbance, and which prevented my absence, even for a few moments at a time. I remarked to Dr. Agnew: "I am in constant fear of some danger impending. We may have a terrible outburst, possibly in the shape of a cardiac thrombus." I said to members of the family: "There is a gravity in this case that portends serious trouble."

At 6 P. M. of the 18th there was another chill, accompanied with pain as before. The febrile rise continued until midnight, the pulse varying from 112 to 130.

At 8 A. M., September 19th, the pulse was 106 and feeble; temperature, 108 8°, and all the conditions unfavorable. In half an hour afterward there was still another chill, followed by febrile rise and sweating, and also with pain as before. During the periods of chill and fever he was more or less unconscious. He passed all day in comparative comfort, and at 8.30 in the evening his pulse was 108, respiration 20, and temperature evidently a little lower than normal.

At 10.10 P.M. I was summoned hastily to the bedside, and found the President in an unconscious and dying condition, pulseless at the wrist, with extreme pallor, the eyes opened and turned upward, and respiration eight per minute, and gasping. Placing my finger upon the carotid, I could not recognize pulsation; applying my ear over the heart, I detected an indistinct flutter, which continued until 10.35, when he expired. The brave and heroic sufferer, the nation's patient, for whom all had labored so cheerfully and unceasingly, had passed away.

Soon after the President expired, it became necessary to make arrangements for an autopsy, so as to present to the profession, in a definite manner, the track of the ball and the parts involved; also to ascertain the immediate cause of death. I deemed it proper to invite Surgeon-General Barnes, and Surgeon J. J. Woodward, U.S.A., and Dr. Robert Reyburn, of Washington, D. C., who were formerly associated in the case, to take part in the autopsy, and also invited, at the instance of Dr. Woodward, Dr. Lamb, of the Army Medical Museum, for the same purpose. The former gentlemen arrived at Elberon, N. J., about 3.45 P.M., when the post-mortem examination was commenced. Dr. A. H. Smith, of New Jersey and New York, and temporarily at Elberon, was also invited.

The most important points revealed by the autopsy, and which are to be considered by the profession, are:

*First.*—Would the condition of the President, immediately after his injury, have justified a more thorough exploration of the wound, or would such a procedure have been safe at any time before primary reaction was established?

*Second.*—Was his transfer to the executive mansion timely and properly made?

*Third.*—Were the best and most judicious means instituted to secure prompt reaction?

*Fourth.*—After reaction was comparatively complete on the 3d of July, and when there had occurred spontaneous evacuations of normal urine and alvine evacuations, and an absence of any evidence of internal hemorrhage or peritonitis, would further exploration have been necessary, especially when it is considered that the probable reopening of the lacerated vessels would induce hemorrhage?

*Fifth.*—Were the surgeons then in attendance justified in deferring any further exploration until the arrival of the distinguished counsel on the morning of July 4th?

*Sixth.*—At the consultation, July 4th, and after it was proved to be impossible to follow the track of the ball any considerable distance beyond the fractured rib, would an operation have been justifiable, necessitating an incision through the soft parts and a removal of a portion of the rib, so as to develop the track.

*Seventh.*—In the light of modern military surgery, which teaches the readiness with which leaden balls become encysted, would an operation at any time for removal of the missile have been justified unless there was some evidence of the missile being a source of irritation?

*Eighth.*—Considering carefully the condition of the President during the entire period of his illness, and the facts revealed by the autopsy, would not any operation for the purposes before mentioned have placed the President's life in great jeopardy, and, at best, have hastened the time of his death, without affording any signal relief?

*Ninth.*—Was the treatment of the case as presented proper, and did it or not prolong his life to the utmost limit?

*Tenth.*—Was the mistaken diagnosis a natural result of the conditions present, and to have developed a correct diagnosis would not operative procedures have ensued?

*Eleventh.*—If we had known the exact course and locality of the ball, and the organs injured in its passage, should the treatment have been modified in any particular?

The artistic drawings which accompany this history will, I trust, facilitate its study, and their accuracy is attested not only by myself, but by Prof. Faneuil D. Weisse, M.D., and Dr. Geo. F. Shrady, of New York, both of whom visited Washington, on my invitation, to study the case, and make thorough and personal examination of the specimens preserved, with a view of verifying the facts in its history.

These drawings were made by Mr. Max Cohn, of New York, who came to Washington, D. C., for that purpose, at my request.

They very satisfactorily illustrate the point of impact and course of the ball, and the pathological conditions which followed, and upon which the diagnosis and treatment were based.

I desire to say, in a brief review of the leading facts as to the general conduct of the case, that it has been apparent to the medical reader that my prognosis was favorable, and notwithstanding the mutations I augured a successful termination. It is but justice to myself to state that my prognosis was based on a lesion of minor importance. Had our diagnosis been correct, modern surgery should have conducted the case to a successful termination. I believe the medical profession, whom I address, will bear me out that the prognosis was correct if the diagnosis had been also correct. I was not always able, during the progress of the case, to account for many of the more profound symptoms, and yet could not succeed in learning of any more extensive or complicated lesions than were first suspected. I desire to make the inquiry whether more extensive explorations could have been safely made, or whether the condition presented—a knowledge of the relative position of the patient to the assassin, the character of the missile, and the condition of the lesion and symptoms which follow—would have directed the investigation toward the actual track and lodgement of the ball, the track of the ball presenting a course of entrance downward and forward to the point of impingement upon

the eleventh rib, and being then deflected to the left at almost a right angle, passing behind the kidney, perforating the intervertebral cartilage and first lumbar vertebræ anterior and to the left of the kidney, and finding its lodgement below the left extremity of the pancreas, wounding in its track the splenic artery. I would ask if any known instrument or means of exploration has ever been presented to the profession capable of tracing before the death of said patient the course of this bullet? Also whether the conditions could have been improved or mitigated, or his life preserved longer by any other line of treatment; whether, in view of the facts, modern conservative surgery could offer anything more for the comfort or recovery of the illustrious patient.

It is proper to state, in conclusion, that most approved antiseptic dressings were used during the entire progress of the case.

The following is the report of the autopsy, to which reference has been made:

*Record of the Post-mortem Examination of the Body of President J. A. Garfield, made September* 20, 1881, *commencing at* 4.30 P.M., *eighteen hours after death, at Francklyn Cottage, Elberon, New Jersey.*

Present and assisting: Dr. D. W. Bliss, Surgeon-General J. K. Barnes, U. S. Army, Surgeon J. J. Woodward, U. S. Army, Dr. Robert Reyburn, Dr. Frank H. Hamilton, Dr. D. Hayes Agnew, Dr. Andrew H. Smith, of Elberon (and New York), and Acting Assistant Surgeon D. S. Lamb, of the Army Medical Museum, Washington, D. C.

Before commencing the examination, a consultation was held by these physicians, in a room adjoining that in which the body lay, and it was unanimously agreed that the dissection should be made by Dr. Lamb, and that Surgeon Woodward should record the observations made. It was further unanimously agreed that the cranium should not be opened. Surgeon Woodward then proposed that the examination should be conducted as follows:

That the body should be viewed externally, and any morbid appearances existing recorded; that a catheter should then be passed into the wound, as was done during life, to wash it out, for the purpose of assisting to find the position of the bullet; that a long incision should next be made from the superior extremity of the sternum to the pubes, and this crossed by a transverse one just below the umbilicus; that the abdominal flaps thus made should then be turned back and the abdominal viscera examined; that after the abdominal cavity was opened the position of the bullet should be ascertained, if possible, before making any further incision; and that, finally, the thoracic viscera should be examined.

This order of procedure was unanimously agreed to.

The examination was then proceeded with, and the following *external appearances* were observed:

The body was considerably emaciated, but the face was much less wasted than the limbs. A preservative fluid had been injected by the embalmer, a few hours before, into the left femoral artery. The pipes used for the purpose were still in position. The anterior surface of the body presented no abnormal appearances, and there was no ecchymosis or other discoloration of any part of the front of the abdomen.

Just below the right ear, and a little behind it, there was an oval ulcerated opening, about half an inch in long diameter, from which some sanious pus was escaping, but no tumefaction could be observed in the parotid region.

A considerable number of purpura-like spots were scattered thickly over the left scapula, and thence forward as far as the axilla. They ranged from one-eighth to one fourth of an inch in diameter, were slightly elevated and furfuraceous on the surface, and many of them were confluent in groups of two to four, or more. A similar, but much less abundant eruption was observed sparsely scattered over the corresponding region on the right side.

An oval excavated ulcer about an inch long, the result of a small carbuncle, was seated over the spinous process of the tenth dorsal vertebra. Over the sacrum there were four small bed-sores, the largest about half an inch in diameter. A few acne pustules, and a number of irregular spots of post-mortem hypostatic congestion were scattered over the shoulders, back, and buttocks. The inferior part of the scrotum was much discolored by hypostatic congestion. A group of hemorrhoidal tumors, rather larger than a walnut, protruded from the anus.

The depressed cicatrix of the wound made by the pistol-bullet was recognized over the tenth intercostal space, three and one-half inches to the right of the vertebral spines. A deep linear incision (made in part by the operation of July 24th, and extended by that of August 8th) occupied a position closely corresponding to the upper border of the right twelfth rib. It commenced posteriorly about two inches from the vertebral spines, and extended forward a little more than three inches. At the anterior extremity of this incision there was a deep, nearly square abraded surface about an inch across.

A well-oiled flexible catheter, fourteen inches long, was then passed into this wound, as had been done to wash it out during life. More resistance was at first encountered than had usually been the case, but after several trials the catheter entered, without any violence, to its full length. It was then left in position, and the body disposed supinely for the examination of the viscera.

The *cranium* was not opened.

A long incision was made from the superior extremity of the sternum to the pubis, followed by a transverse incision crossing the abdomen just below the umbilicus. The four flaps thus formed were turned back and the abdominal viscera exposed. The subcutaneous adipose tissue divided by the incision was little more than one-eighth of an inch thick over the thorax, but was thicker over the abdomen, being about one-fourth of an inch thick along the linea alba, and as much as one-half inch thick toward the outer extremity of the transverse incision.

On *inspection of the abdominal viscera in situ*, the transverse colon was observed to lie a little above the line of the umbilicus. It was firmly adherent to the anterior edge of the liver. The greater omentum covered the intestines pretty thoroughly from the transverse colon almost to the pubes. It was still quite fat, and was very much blackened by venous congestion. On both sides its lateral margins were adherent to the abdominal parietes opposite the eleventh and twelfth ribs. On the left side the adhesions were numerous, firm, well organized, and probably old.* On the right side there were a few

* These adhesions, and the firm ones on the right side, as well as those of the spleen, possibly date back to an attack of chronic dysentery, from which the patient is said to have suffered during the civil war.

similar adhesions, and a number of more delicate and probably recent ones.

A mass of black, coagulated blood covered and concealed the spleen and the left margin of the greater omentum. On raising the omentum it was found that this blood-mass extended through the left lumbar and iliac regions and dipped down into the pelvis, in which there was some clotted blood and rather more than a pint of bloody fluid.* The blood-coagula having been turned out and collected, measured very nearly a pint. It was now evident that secondary hemorrhage had been the immediate cause of death, but the point from which the blood had escaped was not at once apparent.

The omentum was not adherent to the intestines, which were moderately distended with gas. No intestinal adhesions were found other than those between the transverse colon and the liver, already mentioned.

The abdominal cavity being now washed out as thoroughly as possible, a fruitless attempt was made to obtain some indication of the position of the bullet before making any further incision. By pushing the intestines aside, the extremity of the catheter, which had been passed into the wound, could be felt between the peritoneum and the right iliac fascia; but it had evidently doubled upon itself, and, although a prolonged search was made, nothing could be seen or felt to indicate the presence of the bullet, either in that region or elsewhere.

The abdominal viscera were then carefully removed from the body, placed in suitable vessels, and examined *seriatim*, with the following results:

The adhesions between the liver and the transverse colon proved to bound an *abscess-cavity* between the under-surface of the liver, the transverse colon, and the transverse mesocolon, which involved the gall-bladder, and extended to about the same distance on each side of it, measuring six inches transversely and four inches from before backward. This cavity was lined by a thick pyogenic membrane, which completely replaced the capsule of that part of the under-surface of the liver occupied by the abscess. It contained about two ounces of greenish yellow fluid—a mixture of pus and biliary matter. This abscess did not involve any portion of the substance of the liver except the surface with which it was in contact, and no communication could be detected between it and any part of the wound.

Some recent peritoneal adhesions existed between the upper surface of the right lobe of the liver and the diaphragm. The *liver* was larger than normal, weighing eighty-four ounces; its substance was firm, but of a pale yellowish color on its surface and throughout the interior of the organ, from fatty degeneration. No evidence that it had been penetrated by the bullet could be found, nor were there any abscesses or infarctions in any part of its tissue.

The *spleen* was connected to the diaphragm by firm, probably old, peritoneal adhesions. There were several rather deep congenital fissures in its margins, giving it a lobulated appearance. It was abnormally large, weighing eighteen ounces; of a very dark lake-red color both on the surface and on section. Its parenchyma was soft and flabby, but contained no abscesses or infarctions.

There were some recent peritoneal adhesions between the posterior wall of the *stomach* and the posterior abdominal parietes. With this exception no abnormities were discovered in the stomach or *intestines*, nor were any other evidences of general or local peritonitis found besides those already specified.

The *right kidney* weighed six ounces, the *left kidney* seven. Just beneath the capsule of the left kidney, at about the middle of its convex border, there was a little abscess one-third of an inch in diameter, and there were three small serous cysts on the convex border of the right kidney, just beneath the capsule; in other respects the tissue of both kidneys was normal in appearance and texture.

The *urinary bladder* was empty.

Behind the right kidney, after the removal of that organ from the body, the dilated *track of the bullet* was dissected into. It was found that from the point at which it had fractured the right eleventh rib (three and one-half inches to the right of the vertebral spines) the missile had gone to the left, obliquely forward, passing through the body of the first lumbar vertebra and lodging in the adipose connective tissue immediately below the lower border of the pancreas, about two and one-half inches to the left of the spinal column, and behind the peritoneum. It had become completely encysted.

The track of the bullet between the point at which it had fractured the eleventh rib and that at which it entered the first lumbar vertebra was considerably dilated, and the pus had burrowed downward through the adipose tissue behind the right kidney, and thence had found its way between the peritoneum and the right iliac fascia, making a descending channel which extended almost to the groin. The adipose tissue behind the kidney in the vicinity of this descending channel was much thickened and condensed by inflammation. In the channel, which was found almost free from pus, lay the flexible catheter introduced into the wound at the commencement of the autopsy; its extremity was found doubled upon itself, immediately beneath the peritoneum, reposing upon the iliac fascia, where the channel was dilated into a pouch of considerable size. This long descending channel, now clearly seen to have been caused by the burrowing of pus from the wound, was supposed during life to have been the track of the bullet.

The last dorsal, together with the first and second lumbar vertebra and the twelfth rib, were then removed from the body for more thorough examination.

When this examination was made, it was found that the bullet had penetrated the first lumbar vertebra in the upper part of the right side of its body. The aperture by which it entered involved the intervertebral cartilage next above, and was situated just below and anterior to the intervertebral foramen, from which its upper margin was about one-fourth of an inch distant. Passing obliquely to the left, and forward through the upper part of the body of the first lumbar vertebra, the bullet emerged by an aperture, the centre of which was about one-half inch to the left of the median line, and which also involved the intervertebral cartilage next above. The cancellated tissue of the body of the first lumbar vertebra was very much comminuted and the fragments somewhat displaced. Several deep fissures extended from the track of the bullet into the lower part of the body of the twelfth dorsal vertebra. Others extended through the first lumbar vertebra into the intervertebral cartilage between it and the second lumbar vertebra. Both this cartilage and that next above were partly destroyed by ulceration. A number of

* A large part of this fluid had probably transuded from the injecting material of the embalmer.

Fig. 1

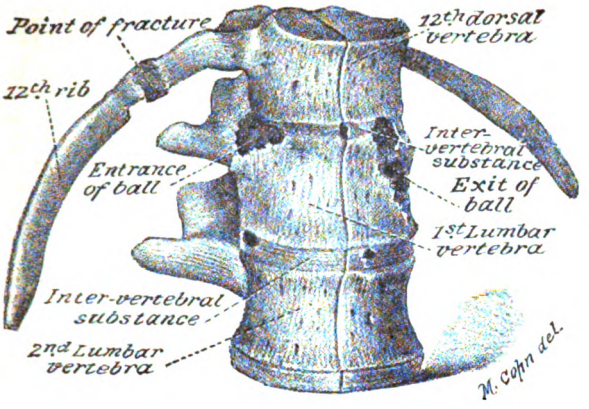



Fig. 2

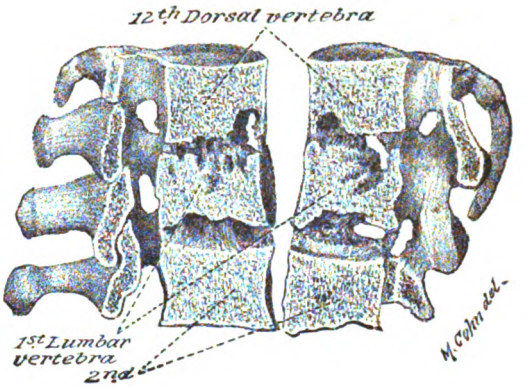



Fig. 3

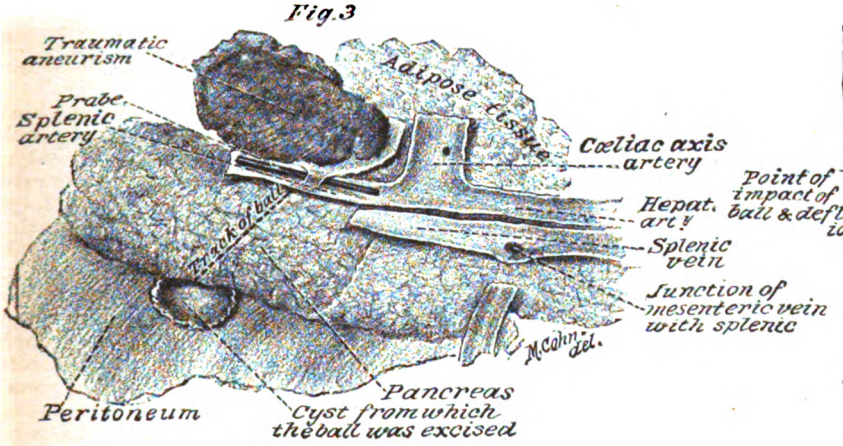



Fig. 4

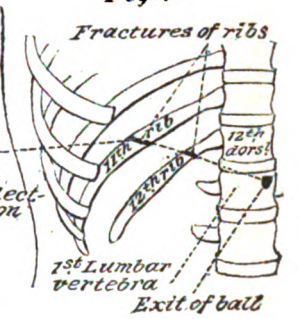



Fig. 5

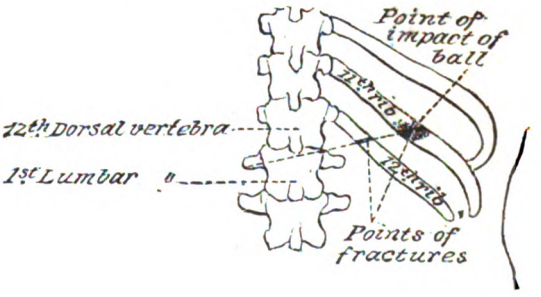



Fig. 6

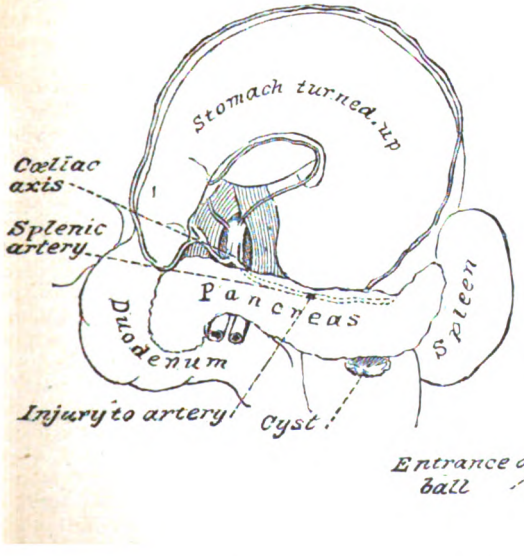
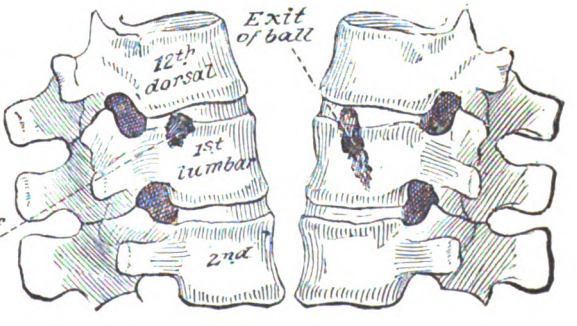



Fig. 7

Fig. 8




PRESIDENT GARFIELD'S CASE.—Pathological Specimens and Anatomical Cuts, showing course of ball.

minute fragments from the fractured lumbar vertebra had been driven into the adjacent soft parts.

It was further found that the right twelfth rib also was fractured at a point one and one-fourth inch to the right of the transverse process of the twelfth dorsal vertebra; this injury had not been recognized during life.

On sawing through the vertebra, a little to the right of the median line, it was found that the spinal canal was not involved by the track of the ball. The spinal cord, and other contents of this portion of the spinal canal, presented no abnormal appearances. The rest of the spinal cord was not examined.

Beyond the first lumbar vertebra, the bullet continued to go to the left, passing behind the pancreas to the point where it was found. Here it was enveloped in a firm cyst of connective tissue, which contained, besides the ball, a minute quantity of inspissated, somewhat cheesy pus, which formed a thin layer over a portion of the surface of the lead. There was also a black shred adherent to a part of the cyst-wall, which proved, on microscopical examination, to be the remains of a blood-clot. For about an inch from this cyst the track of the ball behind the pancreas was completely obliterated by the healing process. Thence, as far backward as the body of the first lumbar vertebra, the track was filled with coagulated blood, which extended on the left into an irregular space rent in the adjoining adipose tissue behind the peritoneum and above the pancreas. The blood had worked its way to the left, bursting finally through the peritoneum behind the spleen into the abdominal cavity. The rending of the tissues by the extravasation of this blood was undoubtedly the cause of the paroxysms of pain which occurred a short time before death.

This mass of coagulated blood was of irregular form, and nearly as large as a man's fist. It could be distinctly seen from in front through the peritoneum, after its sight behind the greater curvature of the stomach had been exposed by the dissection of the greater omentum from the stomach, and especially after some delicate adhesions between the stomach and the part of the peritoneum covering the blood-mass had been broken down by the fingers. From the relations of the mass as thus seen, it was believed that the hemorrhage had proceeded from one of the mesenteric arteries, but as it was clear that a minute dissection would be required to determine the particular branch involved, it was agreed that the infiltrated tissues and the adjoining soft parts should be preserved for subsequent study.

On the examination and dissection made in accordance with this agreement, it was found that the fatal hemorrhage proceeded from a rent, nearly four-tenths of an inch long, in the main trunk of the splenic artery, two and one-half inches to the left of the cœliac axis. This rent must have occurred at least several days before death, since the everted edges in the slit in the vessel were united by firm adhesions to the surrounding connective tissue, thus forming an almost continuous wall bounding the adjoining portion of the blood-clot. Moreover, the peripheral portion of the clot in this vicinity was disposed in pretty firm concentric layers. It was further found that the cyst below the lower margin of the pancreas, in which the bullet was found, was situated three and one-half inches to the left of the cœliac axis.

Besides the mass of coagulated blood just described, another, about the size of a walnut, was found in the greater omentum, near the splenic extremity of the stomach. The communication, if any, between this and the larger hemorrhagic mass could not be made out.

The examination of the *thoracic viscera* resulted as follows

The *heart* weighed eleven ounces. All the cavities were entirely empty except the right ventricle, in which a few shreds of soft, reddish, coagulated blood adhered to the internal surface. On the surface of the mitral valve there were several spots of fatty degeneration; with this exception the cardiac valves were normal. The muscular tissue of the heart was soft, and tore easily. A few spots of fatty degeneration existed in the lining membrane of the aorta just above the semilunar valves, and a slender clot of fibrin was found in the aorta, where it was divided, about two inches from these valves, for the removal of the heart.

On the right side slight pleuritic adhesions existed between the convex surface of the lower lobe of the lung and the costal pleura, and firm adhesions between the anterior edge of the lower lobe, the pericardium, and the diaphragm. The *right lung* weighed thirty-two ounces. The posterior part of the fissure, between its upper and lower lobes, was congenitally incomplete. The lower lobe of the right lung was hypostatically congested, and considerable portions, especially toward its base, were the seat of broncho pneumonia. The bronchial tubes contained a considerable quantity of stringy muco-pus; their mucous surface was reddened by catarrhal bronchitis. The lung-tissue was œdematous,* but contained no abscesses or infarctions.

On the left side the lower lobe of the lung was bound behind to the costal pleura, above to the upper lobe, and below to the diaphragm, by pretty firm pleuritic adhesions. The *left lung* weighed twenty-seven ounces. The condition of the bronchial tubes and of the lung-tissue was very nearly the same as on the right side, the chief difference being that the area of the broncho-pneumonia in the lower lobe was much less extensive in the left lung than in the right. In the lateral part of the lower lobe of the left lung, and about an inch from its pleural surface, there was a group of four minute areas of gray hepatization, each about one-eighth of an inch in diameter. There were no infarctions and no abscesses in any part of the lung-tissue.

The surgeons assisting at the autopsy were unanimously of the opinion that, on reviewing the history of the case in connection with the autopsy, it is quite evident that the different suppurating surfaces, and especially the fractured spongy tissue of the vertebra, furnish a sufficient explanation of the septic conditions which existed during life.

About an hour after the post-mortem examination was completed, the physicians named at the commencement of this report assembled for further consultation in an adjoining cottage; a brief outline of the results of the post-mortem examination was drawn up, signed by all the physicians, and handed to private secretary J. Stanley Brown, who was requested to furnish copies to the newspaper press.

(Signed) D. W. Bliss,
J. K Barnes,
J. J. Woodward,
Robert Reyburn,
D. S. Lamb.

As the above report contains paragraphs detailing

* A part, at least, of this condition was doubtless due to the extravasation of the injecting fluid used by the embalmer.

the observations made at Washington on the pathological specimens preserved for that purpose, the names of Drs. F. H. Hamilton, D. Hayes Agnew, and A. H. Smith, are not appended to it. It has, however, been submitted to them, and they have given their assent to the other portions of the report.

## SURGICO-ANATOMICAL STUDY OF THE GUNSHOT WOUND OF PRESIDENT GARFIELD.

By FANEUIL D. WEISSE, M.D.,

PROFESSOR OF PRACTICAL AND SURGICAL ANATOMY, MEDICAL DEPARTMENT OF THE UNIVERSITY OF THE CITY OF NEW YORK.

After the autopsy on the remains of the late President, performed September 20, 1881, the following seemed to have been the course of the fatal ball after it entered the President's body, and the same was verified by actual dissections:

*The ball entered opposite the tenth intercostal space, about four inches to the right of the median line of the back. It ranged in a direction forward and downward, inclining a little from right to left. It perforated to the plane of the ribs through the skin, subcutaneous tissue, fascia, the latissimus dorsi, serratus posticus inferior, and sacro-lumbalis muscles. It impinged upon the eleventh rib (the most movable of all the ribs), which it crowded to a plane anterior to that of the twelfth. It produced a comminuted fracture of the eleventh rib. The impact of the ball on the eleventh rib caused it to turn on its axis, and from there it was deflected to the left. It perforated the eleventh external intercostal muscle and the sub-pleural portion of the diaphragm just above the right ligamentum arcuatum externum. It tracked through the connective and adipose tissue between the superior portion of the right kidney and the twelfth rib to the spinal column. It pierced the attachment of the right psoas magnus muscle to the first lumbar vertebra. It entered the body of the first lumbar vertebra from right to left. It emerged from the left of the spine, pierced the left psoas magnus muscle attachment, and entered a plane of connective and adipose tissue between the left kidney posteriorly and the left half of the pancreas anteriorly. It crossed the posterior surface of the pancreas obliquely to the left and from above downward to its point of lodgement. It wounded the splenic artery in its transit across the pancreas (the splenic artery presenting in the track of the ball, it seemed more than probable that it, and not the mesenteric, would prove, upon a careful dissection, to have been the injured vessel), from which source the final hemorrhage occurred which burst into the peritoneal cavity.*

I visited Washington with Dr. Geo. F. Shrady, upon the invitation of Dr. D. W. Bliss. At that time Dr. Shrady was informed of the above theory and dissections, but Dr. Bliss knew nothing of these anatomical investigations. Dr. Bliss related to Dr. Shrady and myself a detailed history of the President's case from July 2d to the time of his death. The pathological specimens taken from the body were placed at our disposal by Surgeon J. J. Woodward, U.S.A., in charge of the Army Medical Museum (where the specimens are), and we studied them carefully. Drs. Woodward and Lamb had made careful dissections of the pathological specimens, by which were revealed the following conditions, which lack of time had rendered impossible to have been known at the time of the issue of the Elberon autopsy bulletin:

*First*—The existence of a united fracture of the right twelfth rib.

*Second.*—The entrance of the ball at the right side of the intervertebral fibro-cartilage, between the twelfth dorsal and the first lumbar vertebræ, involving the adjoining portion of the body of the first lumbar vertebra, anterior to the right intervertebral foramen, between the pedicles of the twelfth dorsal and the first lumbar vertebræ.

*Third.*—The transit of the ball through the superior half of the body of the first lumbar vertebra, from right to left and obliquely forward and downward, producing a comminuted fracture of the body of the vertebra.

*Fourth.*—That the intervertebral fibro-cartilage between the first and second lumbar vertebræ had been injured, by the comminution of the body of the vertebra contiguous to it.

*Fifth.*—That the left anterior inferior edge of the body of the twelfth dorsal vertebra was broken away.

*Sixth.*—The evidences of a traumatic aneurism in communication with the splenic artery, at about two and one-half inches from its origin from the cœliac axis.

*Seventh.*—The cyst which contained the ball was found at the inferior border of the external left third of the pancreas posterior to the peritoneum, viz., the posterior inferior layer of the lesser omentum, which becomes the anterior superior layer of the transverse meso-colon.

*Eighth.*—The imperviousness of the track of the ball for an inch or more from the cyst.

The specimen of the abdominal viscera did not present anything bearing upon the location of the collection of pus to the right of the vertebral column described in the Elberon autopsy bulletin.

Reviewing the theory previously deduced, with these additional facts, there was found only this to add:

*In that portion of its course after deflection from the eleventh rib to the spine, the ball grazed the anterior surface of the twelfth rib, producing a simple fracture of it.*

*The transit of the ball through the spine had been defined, but remained virtually the same.*

The injuries inflicted by the ball may be epitomized as follows:

*First.*—A compound comminuted fracture of the eleventh rib.

*Second.*—A compound fracture of the twelfth rib.

*Third.*—A compound comminuted fracture of the body of the first lumbar vertebra, complicated with injury to the intervertebral fibro-cartilages above and below that vertebra, and the breaking off of the border of the twelfth dorsal vertebra.

*Fourth.*—A wound of the splenic artery.

The anatomical reasons for the sequelæ of the above injuries are:

*Sequelæ of the first injury.*—The compound comminuted fracture of the eleventh rib developed the superficial abscess opened by the first operation; the debris of the comminuted rib—thrown by the deflection of the ball downward into the substance of the muscles of the parietes—was the direct cause of irritation, etc.

*Sequelæ of the third injury.*—The concussion to the spinal column had its expression in the symmetrical pains at the peripheral distributions of the right and left sacral plexuses, below the knees, indicating disturbance of their contributive spinal nerves, which constitute the major portion of the cauda equina within the lumbar region of the column.

The pain in the right inguinal region and of the right side of the scrotum would find its explanation in a special impression upon the right first lumbar nerve—the anterior branches of which are the right ilio-hypogastric and ilio-inguinal nerves distributing thereto—which is in close relation with the first lumbar vertebra.

The comminuted fracture of the lumbar vertebra, the injury to the twelfth dorsal, and the injured intervertebral fibro-cartilages determined a consecutive destructive inflammation, the pus from which drained to the right. The pus, however, did not altogether follow the track of the ball posterior to the right kidney; some of it passed anterior to the right kidney, dissecting its way posterior to the peritoneum.

The pus, taking the posterior course, dissected its way down in the post-visceral and extra-peritoneal (sub-serous) areolar tissue, interior to the transversalis fascia of the abdominal parietes, the process ultimately resulting in the sinus, which extended to the iliac fossa.

The pus taking the anterior course did not have an outlet and a reservoir of it accumulated between the right kidney posteriorly and the peritoneum covering the liver and the colon anteriorly.

The contiguity of this pus to the liver and colon induced a protecting localized adhesion of the opposed peritoneal surfaces, investing the liver on the one hand, and the hepatic flexure and right half of the transverse colon on the other. These conditions were verified at the autopsy: "An abscess-cavity, six inches by four in dimensions, was found in the vicinity of the gall-bladder, between the liver and the transverse colon, which were strongly adherent. It did not involve the substance of the liver, and no communication was found between it and the wound." It is possible that there was an error as to the location of this pus; in exposing the abscess *in situ* the adhesions between the liver and colon were progressively separated, and the collection of pus—really behind the posterior plane of the peritoneum, in the right lumbar region—as it bulged forward, gave the semblance of lodgement between the liver and colon.

*Sequelæ of the fourth injury.*—The injury to the splenic artery developed a traumatic aneurism, as appeared in the dissected specimen. The location was such that it obstructed the track of the ball to the left side of the spine, in which position it determined two reparative processes: 1st, the obliteration of the track of the ball to the left of the first lumbar vertebra, which prevented the drainage of pus in that direction; 2d, the lodged ball, sealed hermetically from access of air by the closure of its track, became at once encysted.

The surgical anatomy of this memorable case of gunshot wound admits of the following conclusions:

*First.*—It is a matter of great regret that the autopsy was not made from the back instead of the anterior plane of the body. The bullet entered from behind, and from this direction it should have been followed; after which the internal organs could have been examined for evidences of any remote effects of the wound. Dissections demonstrate, conclusively, the advantages, in this particular case, of such a course, as it would have exposed the lesions and the encysted ball *in situ*.

*Second.*—The impossibility at any time to have safely or even successfully probed the wound so as to find the ball.

*Third.*—The ball as lodged was shut in beneath the abdominal parietes and kidney posteriorly, and the abdominal parietes and spleen laterally and to the left. In this location no operation was warranted for its removal, there having been no evidence of its presence there.

*Fourth.*—Had the point of lodgement of the ball been known, the fact of its not producing any local irritation—the formation of an abscess around it—would have been a positive contra-indication against any operation looking to its removal.

*Fifth.*—If an abscess had formed around the ball instead of its becoming encysted, the pus might have burst into the peritoneal cavity or pointed in the left loin below the kidney, and formed a similar post-visceral and extra-peritoneal sinus to the one that existed upon the right side.

The rupture into the peritoneal cavity would probably have been provided against by the occurrence of suitably protecting peritoneal adhesions. Had the sinus formed, it would have afforded a clue to a correct diagnosis; and under these conditions, after an incision had been made to allow the escape of pus at the left side, an exploratory operation, with the sinus as a guide to the ball, might have been warranted, even to the determining its positive location, and possibly its extraction. Indeed, the ball itself might have dropped into the left sinus.

*Sixth.—It was anatomically possible for a ball deflected downward from the eleventh rib to take the same course as did the sinus to the iliac fossa, and there was afforded—by the rapidity with which this sinus formed; the readiness with which the drainage tubes passed; the fact that the incision of the second operation tapped the sinus below the twelfth rib; the fact that the wound of entrance of the ball healed so promptly after the incisions below; the existence early in the case of a point of tenderness in the right iliac fossa and the subsequent recognizable induration there, which gradually diminished—sufficient grounds to warrant the diagnosis that was arrived at and maintained up to the time of the death of the patient, especially so in the absence of any evidence that the ball had taken a different course.*

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LARGE CALCULUS EXTRACTED FROM THE BLADDER OF A WOMAN BY MEANS OF RAPID DILATATION OF THE URETHRA.—The patient was a woman aged eighty-two, complaining of dysuria and frequency of micturition, and very much debilitated by a long period of suffering. She was forced to pass water every fifteen minutes, and the act was preceded and followed by intense pain. The urine was scanty, and loaded with muco-pus. Exploration revealed stone in the bladder. The woman was anæsthetized to the surgical degree, and the urethra rapidly dilated to 3 ctm. with Buch and Hugier's dilator. The finger was then introduced into the bladder, and the position of the calculus, which lay across the internal opening of the urethra, was rectified. The stone was then removed by means of a small pair of forceps, a limited incision in the upper and lower commissures of the urethra being made to allow its extraction. The dimensions of the calculus were as follows: lesser diameter, 28 mm.; greater diameter, 42 mm.; lesser circumference, 82 mm.; greater circumference, 105 mm. Its weight was 22 grammes; its composition, carbonate of calcium.

OVARIOTOMY IN SOUTH AMERICA.—The first successful operation of this kind, in South America, was performed five or six months ago, by Dr. Ponte, of the Medical Faculty of Caracas.

## SURGICAL AND PATHOLOGICAL REFLECTIONS ON PRESIDENT GARFIELD'S WOUND.

By GEORGE F. SHRADY, M.D.,

SURGEON TO THE PRESBYTERIAN AND ST. FRANCIS' HOSPITALS, NEW YORK.

The case of the late President Garfield has, from its purely surgical aspect, interested every member of the profession throughout the civilized world. Never before has a wound been studied with more care, from the meagre and unsatisfactory data heretofore obtainable, and never before has the accumulated experience of surgeons been more directly applied and more anxiously concentrated upon the welfare of any one patient. The reasons for this are too obvious to mention here.

Having had unusual opportunities for studying the case with Prof. Faneuil D. Weisse, of this city, we having been invited by Dr. D. W. Bliss to examine the morbid specimens in the Army Medical Museum, at Washington, it seems incumbent upon me that I should, from certain pathological and surgical standpoints, make a direct and unbiassed statement.

It cannot be expected that, under the circumstances, a detailed history of the President's case will be given. Such necessarily has been done by the surgeon in charge, who, by actual presence at the bedside, is the only one who can speak with authority concerning the symptoms presented. Nor would I presume at this time to add to the already extensive literature of the subject, were it not considered necessary to do so by the gentleman who so kindly gave me every facility for examination, and who has deemed it a duty which I owe to the profession.

It is proper that I should speak only concerning those points of which there is a direct knowledge on my part, and offer such impressions as are founded thereon.

It is well established by the autopsy that the ball entered four inches to the right of the median line in the tenth intercostal space, and passed forward and downward, impinging upon the eleventh rib about three and one-half inches from the median line of the spinal column. The missile was then deflected to the left and downward, grazing the twelfth rib, which it fractured, and, continuing its course, entered the right side of the intervertebral fibro-cartilage between the twelfth dorsal and first lumbar vertebræ.

The ball then passed through the upper half of the body of the first lumbar vertebra, emerged on the antero-lateral face of the body of the same vertebra, half an inch to the left of the median line, thus throwing the track of the missile forward. Thence it passed behind the pancreas and lodged at the inferior border of the left external third of that organ. In its course behind the pancreas the ball wounded the trunk of the splenic artery. No vital organ was injured. The wound of the splenic artery gave rise to a traumatic aneurism which undoubtedly commenced to form immediately, and it was the final rupturing of this sac into the peritoneal cavity which, as is now well known, caused the death of the patient, and satisfactorily explained all the symptoms during the last hours of his life.

The ball was thoroughly encysted, and the portion of the track adjoining it, for a distance of an inch, was completely closed. The position of the blood-sac evidently accounted for both of these conditions. This aneurism, situated to the left of the spinal column, and between the latter and the ball, apparently pressed upon that portion of the track next the missile and closed it. At the same time, as can easily be understood, the sac-aneurism was thus placed in the direct track of the ball. This is certainly a very significant fact in connection with the probably fatal results in case any extensive exploration of the bullet-wound had been attempted. The aneurism was lined by concentric layers of fibrine which showed nature's efforts to obliterate the sac in the usual manner.

The evidences that the sac had not formed recently were made clear by a study of its pathological conditions. The opening in the splenic artery was on the superior and posterior aspect of its tortuous trunk directly in the track of the ball. The edges of this opening were sharply defined but were gradually bevelled to be incorporated with the walls of the attached blood-sac. This condition would indicate that the coats of the artery were cut completely through during the transit of the ball, and were not merely grazed and afterward opened by ulceration. It would thus appear that the aneurism was formed immediately after the injury and at that time attained its full size. Besides, the sac itself was evidently of long formation, as was shown not only by the firm condensation of its tissue, and its intimate attachment to the edges of the cut in the artery but by the number and apparent age of the concentric layers lining it. The burst portion of this sac was on its left anterior aspect, where not only its walls, but the different concentric layers were thinnest. The immediate invitation for this rupture was the degenerated condition of that portion of the sac, as indicated by progressive and destructive changes in its tissues. It is quite probable, as suggested by Dr. Bliss, that the blood escaping from this sac did not at first find its way into the peritoneal cavity, but that there were distinct hemorrhages into the adjoining tissues, at stated intervals, until the blood ploughed its way forward and to the left, finally escaping into the peritoneal cavity. On this supposition, the occurrence of the intermittent pains in the side, likened by the patient to those of angina pectoris, is, as expressed by Dr. Bliss, very satisfactorily explained.

The question naturally suggests itself at this point, whether or no, if the traumatic aneurism had not existed at the point indicated, it would have been possible to have made a safe and satisfactory exploration of the bullet track through the spinal column. The distance from the point of entrance of the missile in the integument to the commencement of the track through the body of the lumbar vertebra was fully five inches. This fact would, for very obvious reasons, have prevented the exploration of the right side of the vertebra by the finger, the only safe way, under the circumstances, to have made the exploration. The relations of the track to the right side of the vertebra would have made it impossible to have guided intelligently any probe in the required direction. Had the latter been possible, no surgeon would have taken the risks of passing it through the vertebra presumably in such close proximity with the spinal cord. But allowing, for the sake of argument, that a probe could have been introduced safely through the body of the injured vertebra, and that there was no difficulty in tracing the track beyond it, other difficulties and dangers would have presented themselves. In the first place, there is no instrument known to surgeons that could have demonstrated

the actual existence of the ball at its point of lodgement. Loosely attached as it was to the lower border of the pancreas, it would have been pushed before the point of the instrument without affording sufficient resistance to indicate its presence to the operator. Further, by such an attempt, especially during the earlier periods of the case before encystment took place, there would have been a liability of dislodging the ball and causing it to fall into the cavity of the lesser omentum, and by its presence there inviting peritonitis and its attendant evils.

There was no cloth or other foreign material found in the track of the ball, and Surgeon J. J. Woodward, whose testimony concerning microscopical appearances cannot be questioned, informed me that the two small collections of matter found within the cyst, one of a whitish and the other of a blackish appearance, were respectively inspissated pus and a collection of blood-pigments. All the appearance seemed to point to the fact that the reparative processes around the ball commenced to take place immediately after the lodgement of the missile. The left kidney, which contained the abscess, was not preserved, but the report of the autopsy, to the effect that the suppuration was under the capsule of this organ, has an important bearing upon the precise cause of the lesion.

The body of the first lumbar vertebra presented the appearances of carious degeneration in the course of the wound, and, as far as could be judged by an examination of the dried specimen, the intervertebral cartilages above and below it were involved in the same necrotic process. The spinal canal was not involved in the injury. It was stated to me that the shattered eleventh rib had firmly united. This bone was unfortunately not preserved. The twelfth ribs were, however, intact, and had been removed along with the last dorsal, first, and second lumbar vertebræ. The broken portions of the right twelfth rib were firmly united by bone. As the liver had not been saved, the relations of the abscess to it and the surrounding parts were not demonstrable. It was stated, however, that the abscess was situated, as has already been described in the official autopsy, and that it was a closed sac of pus behind the peritoneum. Professor Weisse very ingeniously explained its presence there as a direct drainage in front of the right kidney from the lesion of the spine. This collection of pus at no time had, as far as could be learned, any direct connection with the external wound, although Dr. Bliss entertained such impression from the fact that at times a different character of pus was forced by pressure upon the abdominal walls from the orifice of the supposed track of the bullet.

In following the detailed history of this remarkable case, no significant symptoms were discoverable that would point to the injury of the spinal column as found at the autopsy, save the symmetrical involvement of the nerve-origins by the concussion of the ball. When the first bulletins announced that the President had been shot near the spine, and that there were attendant nerve-disturbances in the lower extremities, a natural and legitimate inference was an injury of some kind to the spinal cord. But when the nerve-symptoms in the lower extremities disappeared there was, for good reasons, a different diagnosis made.

As to the question of septic infection, about which so much has been said, it is well enough in this connection to recognize the fact that there are three principal grades or types of fever that follow the receipt of wounds. A mild form, known to all hospital surgeons, as *traumatic fever*. It occurs early in the history of the case, runs an acute course usually in a few days, and rarely occupies a week. Its phenomena are notably those connected with any high fever, and fatal results are not common. Then we have simple *septicæmia*, so-called, which is usually associated with the idea that some decomposing organic substance has found its way into the blood. In such cases the wound, if visible, exhibits an altered character. It is apt to be humid, swollen, and may be gangrenous. The fever is persistent, with corresponding rise in temperature. The pulse is constantly frequent, and more or less sweating is present. There are occasional attacks of mild shiverings, there may be vomiting, and often there is profuse diarrhœa. At post-mortem examination there is nothing found which may be regarded as characteristic. The spleen is apt to be enlarged and softened, and so too the liver and kidneys. The blood also coagulates imperfectly. Exceptionally, in long-continued cases, there are said to be emboli in distant parts, with resultant abscesses. It is known to us in connection with dissection-wounds.

The third grade or type is what is known among hospital surgeons as *pyæmia*. In reality, the term is an incorrect one, and should not be used. Much better would it be to designate the condition as one of metastatic septicæmia. It is characterized by intermittent rigors, in which the temperature rises from three to five degrees, and then ascends still higher during the fever, but falls during the sweating, all of which phenomena follow one another much as in a case of ague.

These exacerbations have no periodicity as in ague. They occur at any time of day or night, at first often with long intervals, and then with short intermissions. The duration of the disease depends much on the nature of the accident, the strength of the patient, and the activity of the treatment. He may survive but a few days, or many months, in which latter case the disease may be classified as chronic.

Circumscribed abscesses are found in the internal organs; or, if the disease has been very acute, these abscesses may be diffuse. When such an affection is established, the pus becomes scanty, thin, and altered in color, or it may be arrested altogether for a time; wounds or abscesses show little tendency to heal; the skin is apt to be bathed in a peculiarly sticky sweat, and the breath has a characteristic sweet odor. Marked prostration follows each exacerbation, and the patient sinks to a lower level of vitality, in which attacks of delirium are not uncommon.

It remains to decide to which class the President's case belonged. It was evidently not a case of traumatic fever, nor could it be classed with the milder form, called simple septicæmia.

From a careful study of the symptoms in connection with the examination of the autopsical lesions, the conclusion seems inevitable that the case was one which, commencing as the milder form of septicæmia, gradually developed into the graver metastatic variety, or that generally understood as chronic pyæmia. It is apparent that the lines of distinction between the latter conditions cannot be clearly drawn in President Garfield's case; but it must be admitted that the weight of evidence is on the side of metastatic septicæmia, clinically and pathologically. In fact, it is safe to assert that the symptoms pointed so directly toward the existence of this condition, that it was a matter of great surprise that

more metastatic abscesses were not discovered at the autopsy. The assumption in favor of metastatic septicæmia would be satisfactorily proved by the abscess of the kidney and the multiple abscesses in the parotid, which were within the capsules of the respective organs. The theory of Dr. Bliss regarding the production of the abscesses in the parotid is ingenious and rational, as is also his explanation that the abscess in the kidney was of traumatic origin; but it is not necessary to have an independent theory for each of these conditions. It is certainly much easier to account for them by one general explanation, as by such means all the points in the clinical and pathological history can be made consistent and reconcilable. There can be no doubt that the chief source of septic infection was the wound through the lumbar vertebra.

Examining all the conditions of the wound and its relations to contiguous parts, it is easy to explain, as the result of Prof. Weisse's careful and exhaustive studies at the cadaver, that the "possible course of the ball" (*vide* MEDICAL RECORD, July 16, 1881) was the result of a burrowing sinus from the lesions of the ribs and spine, and that the track of the pus was in the direction of the least resistance. It was the only course which a ball deflected downward could have taken without injury to vital organs, and this was the diagnosis subsequently made by the surgeons. Nature, in reality, made a track for the pus, which on very reasonable grounds was supposed to have been the original course of the ball.

Knowing the facts, as demonstrated by the pathological lesions revealed in the President's case, each surgeon is qualified to judge as to the practicability of making extensive explorations of the wound and as to the propriety of removing the ball by operation. It is well to consider at the start that the bullet, as such, had no immediate influence upon the progress of the case, and that the real causes of trouble were connected with the conditions of the track, viz., the broken ribs, the lesions of the spinal column, and the existence of the aneurismal sac. But if the exact location of the missile had been known, and under the supposition that its presence was a source of irritation, the necessary exploration had been made, the probe would have perforated the traumatic aneurism, and the almost instant death of the patient would have been the result. From the position of the wound and the attendant conditions, through drainage at the inguinal region was impossible, and its employment as a means of treatment would, in all probability, have added an extra complication.

From my personal examinations of the pathological specimens, and as the result of an extended and careful study of the history of the case, with every opportunity for examination of details, I am convinced that the treatment of the President was judicious and skilful from the time he was first visited by the physicians in charge until his weary struggle for life was at an end.

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THE STENCHES FROM HUNTER'S POINT are not so pronounced as formerly. The State Board of Health, with commendable zeal, has succeeded in abating the nuisances connected with several of the manufactories of manure in that locality. There are, however, one or two of these establishments which persist in their objectionable methods, and will probably, in due time, be held to legal accountability.

# Progress of Medical Science.

AMYL NITRITE AS A CARDIAC STIMULANT.—Dr. Edward T. Reichert, in a recent paper on the potassium nitrite, claimed that the nitrites, in small or moderate doses, acted as direct cardiac stimulants, and endeavored, while discussing their physiological action, to clearly show wherein the deductions of certain observers on the action of the amyl compound had been erroneously drawn, and why the results of certain experiments undoubtedly corroborated his belief. He has resumed a discussion of the subject in the *New York Medical Journal*, July, 1881, and from it we learn that the nitrites act in two ways to affect the blood-pressure: the one by directly stimulating the heart, and the second by depressing the vaso-motor system, especially its centres. The stimulating effects on the heart ultimately give way to depression, and the reason why the amyl nitrite does not cause a rise of pressure, like the potassium salt, resides in the fact that its vaso-motor action is comparatively more intense, and is more than sufficient to overcome the stimulant effect on the heart. This fact was proven by a comparison with the results of Brunton's experiments. Accepting the deductions as made from the results of Brunton's and Dugan's experiments, it is obvious that the action of the amyl nitrite is identical with that of the alkaline salts, and, consequently, it is a direct cardiac stimulant, increasing the frequency of the heart's action and the amount of work done in a given time. Clinically speaking, it is indicated in chloroform narcosis because its use is followed by a marked acceleration of the heart's action and flushing of the face. Two cases of fatty heart serve to illustrate the stimulant action, and the beneficial results, as a consequence, from its use. The first is that of Osgood, who found it to act with remarkable efficacy, so much so that he believes death would have ensued in a few moments if it had not been given. The second case is one of Janeway's, in which, after the complete extinction of the radial pulse, the nitrite caused it to become full. There are also two cases of valvular disease. Wood states that in his case the effect of the drug in relieving the pang when other remedies failed was astonishing; and Jones tells of a case of a woman who suffered from cardiac dyspnœa, with a dilated hypertrophy of both ventricles (the dilatation being in excess), a feeble circulation, extreme anasarca, pulmonary œdema, lividity of the face, and shortness of breath. The use of amyl nitrite produced most beneficial effects, and induced a pleasant glow all over the body, and on each occasion of its use she felt easier and more comfortable about the chest.

HYDROCELE IN THE FEMALE.—Dr. William C. Wile has reported two cases of this kind, in the *American Journal of Obstetrics*, July, 1881. It is a very rare malady, and, if of ancient origin, was not recognized by the practitioners of those days. The cause is obscure. Labor would seem to have some influence in producing it. The diagnosis will not be difficult in the extra-peritoneal variety. Its diaphanous character, absence of pain, slow growth, not receding into the abdominal cavity, either by taxis or while in the recumbent position—peculiar fluidy feel imparted to the fingers during manipulation, the absence of resonance on percussion, no constitutional excitement, all go to make the diagnosis compara-

tively easy; and the only affection it could possibly be confounded with is hernia. To make assurance doubly sure, however, a small exploring-needle, or what is still better, the fine needle of a hypodermic syringe, should be passed in, when its character will at once become apparent. If it prove to be a hernia, no harm will be done by the puncture. After the diagnosis is made, evacuate by the respirator, and then the injection of tincture of iodine into the sac is preferable to incision and drainage.

In the first case which came under Dr. Wile's observation, a diagnosis had been repeatedly made as one of hernia, and a truss actually applied and allowed to be worn for nearly a year and a half. The patient was a married woman, thirty-seven years old, the mother of four children, the youngest one and one-half year old. Eight years ago she was delivered with instruments, after a long and painful labor. She had a slow getting up, and a short time after she had commenced to go about the house she noticed an enlargement of the left labium. It gave her no pain or inconvenience. She sought medical advice, and was told that she had a hernia. After the delivery of her last child, it enlarged very rapidly. When the patient came under Dr. Wile's observation, she exhibited a soft, fluctuating tumor in the left labium, the size of a large hen's-egg. Hydrocele was suspected, and the diagnosis confirmed when the needle had been introduced. About one-half drachm of tincture of iodine was injected, which caused an active inflammation, which gradually subsided in the course of the next six days. The second case was a primapara, aged forty-four years. A tumor appeared in the right labium, which slowly increased until it grew to the size of a small hen's egg; no pain or inconvenience from it whatever; never receded in the abdominal cavity while in the recumbent position, and could not be reduced in any position. Instead of healing nicely, the sac took on suppurative action, which necessitated laying open the wound, and after dissecting as much of the sac as was possible, the wound was packed with oakum and allowed to heal by granulation. Dr. Wile was assisted by Dr. Horatio R. Bigelow, of Washington, D. C., in his search of the literature on the subject, and, after a very exhaustive search through the library of the Surgeon-General's office, failed to find more than one case on record among the journals of this country and Europe.

Enchondroma of the Larynx.—An instance of this rare affection is reported by Ehrendorfer, in the *Archiv f. klin. Chirurgie*, vol. xxvi., p. 578. The patient was a woman, fifty-three years of age, who had become hoarse three years before, and had remained so, despite electrical treatment. At that time the left vocal cord was found to be paralyzed. A year later laryngoscopic examination disclosed, on the posterior wall of the larynx, close to the left vocal cord, a small tumor covered by healthy mucous membrane. The growth gradually enlarged, became ulcerated, and was regarded as carcinomatous. Three years after the development of the initial symptoms, deglutition and respiration became so much impeded that it was found necessary to perform tracheotomy. While introducing the canula, a piece of the tumor was accidentally torn off, and on examination proved to be cartilage. Three weeks later Billroth proceeded to extirpate the growth. Beginning at the hyoid bone, an incision was made on the left side of the neck, along the anterior border of the sterno-cleido-mastoid, for a distance of nine centimetres. The operator now separated, with blunt instruments, the tissues intervening between the incision and the left side of the larynx and pharynx, and, after thus exposing the posterior wall of the larynx, was able to enucleate the tumor with the fingers. The neoplasm was found to originate from the posterior surface of the posterior half of the cricoid cartilage, growing thence upward and backward, and finally penetrating into the interior of the larynx, between the arytenoid cartilages. At this point there was a hole in the mucous membrane large enough to admit the finger. After introducing a drainage-tube, the wound was closed with sutures, but had to be reopened five days later, the patient having had a chill. The cavity was found lined with a fibrinous deposit, which disappeared after several days, the wound then healing by granulation, although complete closure was retarded for a time by the escape through the wound of a part of the ingesta, probably through subsequent perforation of the œsophagus. The development of luxuriant granulations in the larynx necessitated the introduction of peculiarly constructed conical sounds for some time after the cicatrization of the external wound. The extirpated tumor was four centimetres long, three centimetres wide, and two centimetres thick, consisted of hyaline cartilage with an admixture of connective tissue, and contained several small and large cysts.—*Wiener med. Wochenschrift*, July 2, 1881.

Peculiar Plexiform Sarcoma of the Posterior Wall of the Pharynx.—The patient, a woman, forty-eight years of age, complained since two years of gradually increasing obstruction to deglutition. Examination with the laryngoscope disclosed a whitish, nodulated swelling, partly overlying the entrance to the larynx. The tumor could also be felt from the outside, and an enlarged lymphatic gland was noticed in the superior triangle of the neck. After vainly endeavoring to seize the growth from the mouth, Billroth performed pharyngotomy, dividing the pharynx and upper part of the œsophagus, after which the tumor presented itself to view. It was attached to the posterior wall of the pharynx by a pedicle of the thickness of a quill. The pedicle and its point of insertion were then excised, the pharyngeal and œsophageal wound sewed up, and the external wound closed, after previously extirpating the enlarged gland. Primary union. The tumor, the dimensions of which were four, two, and one and one-half centimetres respectively, possessed a structure similar to that of the early stage of cylindroma. The cells of which the cylinders were composed had none of the characteristics of epithelial cells. Groups of similar cells, but no cylinders, were found in the lymphatic gland. Cross-sections of the capillary vessels show their actively proliferating endothelia, aggregated here and there so as to resemble cancer-pearls.—*Wiener med. Wochenschrift*, July 2, 1881.

The Simultaneous Occurrence of Albumen and Sugar in the Urine.—According to Dr. Th. Frerichs, there are three conditions in which sugar and albumen occur together in the urine. These are: 1st, glycosuria; 2d, diabetes mellitus; and 3d, chyluria. In glycosuria, under which heading Frerichs classifies cases in which, for a varying length of time, small amounts of sugar are excreted without exerting any appreciably bad effect upon the nutrition of the individual, albuminuria is a very frequent complication, occurring in nearly fifty per cent. of the cases. The diseases in the course of

which glycosuria presents itself are acute and chronic cerebral affections. Thus, Frerichs found sugar and albumen in the urine in three cases of aneurism of the brain, which had ruptured into the ventricles, in four cases of extensive apoplectic effusion, two of purulent general meningitis, and one of chronic tubercular basilar meningitis. Extravasation of blood into the ventricles was common to all these cases except one, where the effusion involved a part of the cerebellum and the crus cerebri. Of the chronic form, which may last years, three cases were observed, all complicated by facial paralysis; there was from one and one-half to two per cent. of sugar in the urine, with a varying amount of albumen, one or the other constituent occasionally disappearing entirely for a time. No post-mortem examinations were obtainable. In all of the above cases the cause of the pathological secretion is, according to Frerichs, a lesion of the fourth ventricle, at and just above the diabetic point. The prognosis in the acute cases depends altogether upon the nature of the cerebral affection, being most favorable in meningitis, Frerichs himself having observed two recoveries. In chronic cases the prognosis must always be dubious, the subjects being usually individuals who are run down by mental over-work, and who are notoriously liable to apoplectic seizures.

Frerichs met with but few cases of diabetes mellitus complicated with nephritis—at most five per cent. of the cases—and most of these were affected with other conditions sufficient to give rise to albuminuria *per se*, thus: arteriosclerosis, phthisis pulmonum, cystitis, and arthritis with renal calculi. All cases of diabetes mellitus complicated with phthisis terminated fatally; others, where the albuminuria was dependent on cystitis and subsequent nephritis, ended in recovery. In chyluria, albumen, sugar and fat are found in the urine; but whether this is due, as has been assumed, to a reversed current in the lymphatics, is an open question. This much has been demonstrated by Brieger: when fat is excluded from the diet of the patient, none appears in the urine.—*Med.-chirurg. Rundschau*, June, 1881.

Treatment of Suppurating Buboes by Aspiration.—M. Le Pileur advises aspiration in the treatment of suppurative adenitis, no matter what the nature or origin of the disease may be. The operation should be deferred until the pus has collected and fluctuation is no longer doubtful. A cure is effected with almost invisible, or at least, very insignificant cicatrices. The duration of the trouble in the cases operated upon was short. Nineteen instances selected at random gave an average of about twenty-four days after the operation. The method mentioned has an inconvenience—one, however, which neither the physician nor the patient need hold as of much account: it necessitates surveillance with daily inspection.—*Annales de Dermatologie et de Syphilographie*, April, 1881.

Etiology, Pathogenesis, and Treatment of Chlorosis.—Zander concedes that chlorosis is substantially dependent upon a deficient formation of red blood-corpuscles, both as to number and quality, and that this condition may be relieved by increased absorption of iron. But he denies that iron is the only agent that is capable of curing chlorosis. Mother's and cow's milk contain more iron than is necessary for the nutrition of a child—at least the fæces contain appreciable amounts of the metal. The ordinary diet of man is also sufficiently rich in iron to satisfy the wants of the body. If, then, individuals become chlorotic by reason of an insufficiency of iron, the latter should be absent, or at least be found in very small quantity, in the excreta. Zander found that this was not the case. On examining the fæces in many cases of chlorosis where iron had not been administered, considerable amounts of the latter were always present. The fault lies, therefore, in a defective digestion and assimilation of iron—due, in all probability, to an insufficient gastric secretion of muriatic acid. Acting on this assumption, Zander prescribed this acid for all of his chlorotic patients, and obtained results more satisfactory and lasting than he had had with iron. Relapses, of course, were also met with, especially at the onset of menstruation; but they were readily overcome by repose and the renewal of medication.—*Med.-chirurg. Rundschau*, June, 1881.

Gastric Epilepsy and the Relations Existing between it and Certain Neuroses of the Vagus Nerve.—In a communication to the *Revue de Médecine* of June, 1881, Dr. Pommay states that the results of his researches have justified him in placing gastric epilepsy of males upon a level with uterine epilepsy of females. He cites several instances in which epileptiform attacks were due to disturbances of digestion. Many cases of epilepsy seen in full-blooded gourmands, the author thinks, are due rather to an overloaded condition of the stomach, than to a plethoric state of the blood-vessels. According to Kussmaul and Tenner, whom he cites, congestion of the cerebral arteries produces symptoms unlike those of epilepsy. In the case of plethoric individuals, there can be no doubt of active congestions unless there intervene a pathological factor of a different nature. Related to gastric epilepsy are those affections which have lately been grouped together under the name of neurosis of the pneumogastric. They are characterized by attacks of cardiac palpitation, oppression, disturbance of cardiac rhythm, and a feeling of hunger sometimes amounting to pain. These symptoms follow errors in diet, and disappear upon treatment directed to the digestive trouble. The feeling of hunger, sometimes increasing to pain, has been indicated by Hughlings-Jackson as the aura of gastric epilepsy. Dr. Pommay draws his conclusions as follows: 1st, digestive troubles may produce various nervous symptoms, due on the one hand to paralysis, on the other hand to an excitation of the pneumogastric nerve; 2d, these phenomena are of reflex nature, and are confined to the pneumogastric. They are produced by irritation of the sensory gastric filaments, and reflex excitation or paralysis of the cardiac branches; 3d, the phenomena of excitation occasion epileptic attacks, and those of paralysis give rise to cardiac disturbances; 4th, the age and condition of the patient seem to influence the mode of response to irritation; 5th, gastric epilepsy differs from other epilepsies, first, in its cause—errors of diet; secondly, in its symptoms, *i.e.*, vomiting of food, superadded to the ordinary symptoms of the attack; and thirdly, in its sequelæ, *i.e.*, gastric trouble.

Nature and Pathogenesis of Visceral Lesions Dependent upon Progressive Obliterating Endocarditis.—In the *résumé* of this very thorough paper, published in the May number of the *Revue de Médecine*, Dr. Martin makes the following statements: 1. The inner tunic of the majority of the arteries of the system, during almost the entire period of life, is subjected to irritations which inflame and thicken

it, and consequently induce a diminution of the quantity of blood in circulation. 2. Progressive obliterating endocarditis may be seen even in the first years of life, and in young children is principally localized in certain nutrient vessels supplying the first portion of the aorta, in which situation small atheromatous plaques are consequently developed. Later the process invades a larger number of arterioles, locating itself by preference in organs whose circulation and function are very active. 3. The progressive diminution of the amount of blood conveyed to a certain viscus, brings on an atrophy of its functional elements, and a corresponding development of connective tissue. This sclerosis begins as far away as possible from the affected arterial trunks, and in situations where the supply is most insufficient; it is not preceded by any lesions of the capillaries in that region. The functional cells in the neighborhood of its point of development appear healthy and uninflamed during the initial period, until the sclerotic tissue has undergone perceptible increase. There is nothing to prove that this sclerosis is the consequence of an inflammatory irritation; for this reason it has been called dystrophic sclerosis. 4. Progressive endarteritis accounts for, and shows the pathogenetic connection of a great many scleroses. It explains why cirrhosis may appear in one organ rather than in another, why the endarteritis may locate itself, primarily or after other such localizations, in the nutrient arterioles of the posterior region of the spinal cord, thus determining the lesion and the symptoms of ataxy. 5. Progressive endarteritis may occur as an acute lesion, especially in certain infectious maladies causing circulatory troubles which of themselves may suffice to cause death should such an important organ as the heart, for instance, become affected. 6. Irritant particles existing in the blood (as in gout, alcoholism, plumbism), cannot fail to hasten the evolution of and exaggerate chronic progressive endarteritis. As for the acute endarteritis of infectious diseases, the modern parasitic theories agree very well with its conception, and explain its evolution naturally. 7. The proliferative lesion beginning in the inner coat may remain localized there, but, as a rule, it spreads beyond it.

Valvular Ruptures of the Heart.—There are a certain number of instances of rupture of the heart, says Dr. Barié (*Revue de Médecine*, June, 1881), involving only the valvular apparatus, without any lesions of the cardiac walls or the thorax. These cases are much more rare than those of common rupture of the heart, implicating the walls of the ventricles and auricles, and the septa between these cavities. Rupture sometimes affects the semilunar valves of the aorta, and sometimes the auriculo-ventricular. No cases of rupture of the pulmonary semilunar valves are recorded. These accidents, in some patients, are of spontaneous origin, following a violent effort. In others the cause is a sudden and intense shock sustained by the thorax. When the rupture involves the aortic semilunar valves, it affects by preference that valve which corresponds to the interventricular septum, and especially the point of valvular implantation upon the aortic orifice. In rupture of the mitral, in no case was the valvular velum itself involved; in one case out of three of tricuspid rupture the velum was torn. Most cases of spontaneous ruptures followed a violent effort. Traumatic ruptures of the mitral appear to have occurred, as a rule, at the beginning of the ventricular systole: some, however, during cardiac repose. Aortic valvular rupture commonly took place during diastole. The prognosis of valvular rupture is grave. Out of thirty-five cases alluded to, twenty-four died. In semilunar rupture the accident is, perhaps, gravest when it involves a valve surmounted by the mouth of a coronary artery. In mitral rupture the prognosis is most serious when the lesion involves a fleshy column rather than the chordæ tendinæ. It is possible to produce valvular ruptures experimentally by augmenting the pressure to which the valves are subjected. It is difficult to so rupture the mitral, because the cardiac walls give way under lower pressure than the valves. In the process of estimating the pressure necessary to produce rupture, the manometer gave very varying results, ranging from one hundred and sixteen millimetres of mercury to four hundred and eighty-four millimetres. The resistance evidently varies for every heart, according to the more or less perfect integrity of its muscular walls.

The Late Manifestations of Syphilis in Old Persons.—The February number of the *Revue de Chirurgie* contains a contribution upon this subject by MM. Ferrier and Luc. According to them, in old persons syphilis occurs under two very different forms. It may show itself as the late manifestation of a disease contracted at a more or less remote period, or as early accidents resulting from recent syphilitic infection. The researches of the authors are based upon observations upon the persons of old females admitted to the surgical service of the Salpêtrière. Patients affected with visceral syphilis did not fall under their notice, as these were taken charge of by the medical division of the staff. The writers consider successively gummata of the skin and cellular tissue, those of the muscles and bones, and finally, cutaneous manifestations. In some cases the coincidence or succession of morbid manifestations served to determine the diagnosis of syphilis, the effects of treatment affording but little information in this respect. Many of the specific accidents described were but slightly, or not at all, influenced by the mixed or the iodide treatment carried on systematically for quite a length of time. The intervals of time between the primary lesions and these late accidents is worthy of consideration. In one instance the primary lesion had occurred at the age of twenty-six; the specific cutaneous affection for which the patient entered the hospital appeared at the age of sixty. Another patient had had a chancre when she was twenty-six years old; the syphilide appeared at the age of sixty-one. Had the absence of previous treatment had any influence upon the appearance of these late manifestations? This was regarded as possible, although the fact could not be definitely proved. At all events, the greater part of the cases observed had had no anterior specific treatment.

The authors endeavored to ascertain whether there was any reason why the late manifestations should preferably involve the cutaneous structure, the bones, and the cellular tissue. Their inquiries, however, failed to elicit satisfactory explanations.

In concluding, they call the attention of clinicians to the following facts: 1. The relative frequency of late syphilitic manifestations in old persons. 2. The features presented by such lesions, according as they affect the integument, the cellular tissue, the muscles, or the bones. 3. Finally, the slight efficiency possessed by rational therapy—mercurial, mixed, or iodide of potassium treatment—in ameliorating or curing these late accidents.

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## THE LATE PRESIDENT GARFIELD'S CASE.

THE surgical aspects of the case of the late President Garfield assume a new importance in view of the results of the autopsical revelations. The time has arrived for the settlement of all questions regarding diagnosis, prognosis, and treatment, by an appeal to the dead body, and by the careful and conscientious study of the lesions revealed by the post-mortem.

No case has ever occurred in surgical history that has invited more study by the profession or commanded a greater interest with the people. In its discussion by the secular press the entire world has not only been impressed with its importance as a political event, but with its remarkable history as a surgical case. In fact, it is safe to say that its purely surgical aspects have been made paramount to every other consideration in connection with it. Even the daily bulletins, scanned as they were by millions, have of themselves, in consequence of the public anxiety for the distinguished patient, been the means of popularizing many technical terms in medicine and many methods of surgical procedure which have heretofore been the exclusive property of the profession. Now every intelligent citizen is enabled, as the result of a pardonable interest in the details of diagnosis and treatment, to appreciate, in a great measure. the relative value of the many important questions involved, even in the discussion of the purely technical side of the case. Not only the profession, but the people, have awaited with no little interest the discussion of the subject from the purely medical and surgical aspects; and now that the end has come and the time for writing the history has arrived, the general professional study of the case has commenced.

The medical and surgical history of President Garfield's case is now appropriately presented to the profession and to the public for the first time, by the gentleman most competent to speak, and who as surgeon in charge has been immediately responsible from shortly after the time of the infliction of the wound at the Pennsylvania depot, to the final passing away of President Garfield at Elberon. To such as may read the explicit, straightforward narration of Dr. Bliss as now presented, it must appear that there are many new and important points connected with diagnosis and treatment which have never before appeared in print, and that very many matters of detail heretofore in doubt are now given to his professional brethren in a direct and authoritative way. He is now in a position to be judged by his peers as to the course which he pursued, and to speak *ex cathedra* upon all matters of practical interest connected with the performance of the duties of his office as the principal and trusted professional adviser of the President.

It is not necessary here to do more than comment in a general way upon the history of the case as given by Dr. Bliss, and upon the autopsy, which he appends. Whatever else may be said concerning the case, it must be conceded that all its salient points are well brought out, and all the statements made with a conscientious desire for the truth and in the higher interests of scientific surgery. From the facts as presented, it appears that the case was well treated from the beginning, and that nothing was left undone, either in the way of meeting existing conditions or anticipating possible contingencies. In this history are answered many important questions, particularly relating to the examination of the wound, the treatment of the various complications, as well as the proper division of responsibility among those whom he chose for his counsellors. He is now given an opportunity of presenting the reasons for his general course in the conduct of the case, and to explain, in a direct and manly way, the cause of errors. For such as were unavoidable he will be generously excused, while for such as are matters for individual judgment he must receive his meed of credit, and put at rest the many criticisms of those who never saw his patient, and could never know his patient's wants. The suggestions as to what might have been done are now answered by the simple statement of one who was constantly at the bedside, and who, with rare acuteness and wise forethought, was ready and eager to meet indications as they actually occurred.

The mistake in diagnosis, deplorable as it may seem, was natural, if not positively unavoidable, considering all the conditions present. In fact, now that the autopsy has disclosed the precise locality of the ball, it is a matter for congratulation that its real track was not suspected before death. As proved by the autopsy, there lay directly in the course of the missile the blood-sac, an injury to which, by an explorative operation, must have resulted in instant death. Never before has it been

so clearly demonstrated that the sin of omission in surgery (if such a term may be allowable in this connection) was more excusable than that of commission in the shape of officious operative interference. It is comforting to think that the error of diagnosis had no possible bearing upon the ultimate result, and that, in fact, it was a means of avoiding serious mishaps in other directions. It appears quite evident, in view of the autopsical examination, that not only would it have been dangerous, but impossible, to track the ball through its course; while all attempts at removal by operation, allowing that its precise locality could be made out, were out of the question. Certain it is that the autopsy proved that the missile could not have been reached from any direction and removed without sacrificing the life of the patient by the wounding of large and important vessels in the neighborhood, inflicting irreparable injury to vital organs, and thus directly inviting death.

As has been proven by the autopsy, the ball could not have been in a better situation for more rapid and complete encystment. The traumatic aneurism formed upon the wounded splenic artery was in such a situation as virtually to press upon the portion of the track next to the ball, and secure its prompt closure. The ball itself might have remained harmless in that position for an indefinite number of years. But in saying this much it must be considered that there were other attendant conditions which made it impossible for the patient to recover. These, taken together, were mortal from the beginning, and the prolongation of the life of the patient against such heavy odds could only be accomplished by the exercise of the most watchful care, consummate skill, and sound conservatism not only of Dr. Bliss, but of all the gentlemen who so nobly and generously shared with him the dreadful responsibilities of the case during all the anxious moments and the darkest hours. As an evidence that the dressings were properly made and the freest possible drainage given to all accessible parts of the wound, it is only necessary to refer to the fact that the original track in the external soft parts and that the fractured twelfth rib had firmly united by bone, which could hardly have been possible if for any considerable period it had been bathed in pus. For the same reason the eleventh rib, which unfortunately was not removed at the autopsy, is said to have been in a state of healthy repair.

### A SUGGESTION FOR THE AMERICAN ACADEMY OF MEDICINE.

We made a brief reference to the work of this organization at the time of its meeting in this city.

At that time, as heretofore, we took occasion to express a cordial wish for the success of the association in the excellent objects toward which it aims.

One can give good wishes to the academy without entirely approving of its methods, and there certainly appears to be something lacking in these methods, else why does the academy get along so slowly. It is now in its sixth year. It is a national association.

The persons eligible to membership must number among the thousands. Yet its membership is only, we understand, about two hundred. The number of persons with a degree of Bachelor or Master of Arts who yearly graduate in medicine certainly reaches among the hundreds, but the yearly additions to the academy are, we are informed, only between ten and twenty. This certainly looks like a lack of energy, and very naturally excites the query:

Why is not something done to increase the membership, when the available candidates are so numerous?

For one thing, the academy does not make its objects, or even its existence sufficiently known. And, furthermore, the fee for membership is at present unnecessarily great.

The society stands somewhat in the position of the *Index Medicus*, which every one admits is an admirable periodical, and urges his neighbor to take it. But the esteem is not great enough to disturb the local relations of the pocket-book. There is this difference, however: the Academy does not need the five dollars. And there are, we doubt not, hundreds of young men who would willingly become members, and who would take an earnest interest in the society, but who are hardly able, if inclined, to give their five dollars for an initiation fee, and ten dollars more for a diploma, when the return is practically nothing, or rather, is nothing practical. Let there be some arrangement for rebating the fees, which the society does not need, and let the society make itself more widely known. Then, we venture to say, its annual membership would be increased by hundreds instead of tens. With increased membership would come greater activity and power to influence the education of medical men in the way toward which the society aspires.

### THE CRUSADE AGAINST POOR MILK.

Unusually energetic efforts have been made recently to prevent the introduction of poor milk into the city. Once or twice every week the milk inspectors have made systematic examinations of the milk brought from New Jersey, Long Island, or the counties above the metropolis. Not long ago a number of children in a large city orphan asylum were taken sick. The cause was suspected to be the inferior quality of the milk. The samples were obtained, and found apparently to have been watered or skimmed. The dealer was arrested, but escaped justice, it is said, through political influence.

Last week about five thousand quarts of skimmed and adulterated milk were seized and poured into

the street. The spilling of bad milk is to be kept up by the authorities, we are told, as long as it continues to be sent into the city.

The old-fashioned plan of simply watering milk has been largely superseded of late by the dairymen. The present method is to mix skimmed and unskimmed milk together. Other dealers simply remove one-fourth or more of the cream, and sell the rest for unskimmed milk. Occasionally a little soda or salt is put in milk to keep up the specific gravity. The proportion of water in milk averages about eighty-eight parts per hundred. In watered milk this amount is increased usually by about four per cent.

The amount of milk consumed in New York City is not accurately known, but it is certainly enormous. There are at least six thousand places here where milk is sold, while some large dealers sell five or six thousand quarts a day. The necessity of watching over this milk-supply is very apparent, but is, after all, not felt as it should be.

The Board of Health is to be praised for the work it is doing, and yet it cannot legally do one-half of what is needed. Our milk-inspectors can only keep out milk that is poor in nutritive qualities. The talk about finding "adulterated" and "poisoned" milk is, in most cases at least, sheer nonsense. Milk is not adulterated except with water or salts, neither of which constitute adulterations in the serious sense of the word. Poisoned milk is not intentionally sold, unless the milk from diseased animals be called such. And then it is not often practicable or possible for the inspectors to detect it.

It was forcibly shown by Dr. Brush, in an article in THE RECORD a few weeks ago, that one of the greatest dangers from our milk-supply lay in the fact that some of the milk comes from diseased cows. The herds of the dairymen are liable to be affected by some form of disease, such as pleuropneumonia or tuberculosis, garget, or foot and mouth disease, all the time. There are many dairymen, according to Dr. Brush, who use the milk from cows which have calved only a day or two before. In bovine tuberculosis it is not impossible that the milk contains a specific poison, weak indeed in power, but able to affect the system of infants. In most of the ordinary diseases of cattle it is probable that the milk is affected chiefly as regards the albumen and caseine. The former increases in amount, being present in the colostrum corpuscles, while the caseine at the same time diminishes. Dr. Brush considers the true evidence of the good quality of milk to lie in the fact that there is a normal proportion between the sugar and albumen on the one hand, and the caseine on the other.

Altogether it is very evident that though our milk inspectors are very active in destroying skimmed and watered milk, they do not strike at the root of the evils of our milk supply. There should be some laws to protect us against milk from diseased cattle, and, we might add, against milk from dairies where there is typhoid fever, diphtheria, or scarlet fever.

These are things that the profession would do well to agitate when the proper time comes; meanwhile, something can be done by private effort. There are already organizations in the city which claim to furnish pure milk from healthy cows. These companies have their herds inspected monthly by veterinarians. Their existence clearly shows that some of our population appreciate the necessity of having pure milk. There should be efforts to make this feeling more widespread.

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### MALARIA IN NEW ENGLAND.

NOT long ago we called attention to the fact that malaria had been showing itself in various parts of New England, where it has heretofore for many years been comparatively unknown. The *Boston Medical and Surgical Journal* has been discussing the subject in its columns, and furnishes some interesting facts connected therewith.

Malaria is not a new disease to New England, but has appeared now and then in different localities ever since the settlement of the country. In Dr. Green's centennial address, delivered before the Massachusetts Medical Society, last summer, several references to the disease are quoted. The Reverend Mr. Danforth, of Roxbury, during the winter of 1660, makes the following entry in the church records: "The Lord was pleased to visite vs with epidemical colds, coughs, agues and fevers." Later, in 1671, he writes: "This summer many were visited with ye ague and fever," and again in the same year he records: "Agues and fevers prevailed much among vs about ye Bay, and fluxes and vomiting in Boston." Another writer, in 1691, speaks of the "burning and spotted Fevers, shaking Agues, dry Belly Achs, plague of the Guts, and divers other sore distempers" which afflicted the plantation.

There are other records of the existence of malaria in New England at later periods. Nevertheless, it is a fact that for a considerable time this form of disease has shown itself endemically in but very few sections in the States in question. It is, we believe, about five years since it began to travel up the Connecticut and along the sea-coast. It has now reached some of the river towns in lower Vermont, and has been quite prevalent at several points in Western Massachusetts, along the Connecticut River valley. Cases also occurred at Providence, R. I., and in the vicinity of Boston. According to a report made by the Connecticut State Board of Health, the malarial wave is gradually extending over that State. The only rule which seems to be observed is, that it follows up the river valleys, spreading on either side. It also travels along the coast-line, extending thence

inland. Local causes do not apparently develop the disease, although marshy ground, newly turned soil, etc., have in some cases increased the amount or modified its character.

The reasons for the appearance of this remarkable malarial wave are as yet quite obscure. The Connecticut Board of Health is, however, studying the question, and doubtless the sanitary boards of other States will soon take action. It is a matter that certainly deserves attention, and local physicians have now an opportunity to make some very useful observations.

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### THE SCOURGE OF ITALY.

PELLAGRA is a disease which is rarely described in ordinary text-books, and only receives a brief notice in works on the skin. It has a terrible significance, however, to the inhabitants of Italy, where the disease has widely prevailed for many years. Its gradual increase, and the devastation it creates, have led to some very extensive investigations into its cause and nature. And these investigations have more than a local interest.

Pellagra is usually, but with no good reason, classed among skin-diseases. It has been called elephantiasis italica, but it bears a closer resemblance to the bronzed skin-disease of Addison than to any form of elephantiasis.

It is a chronic disease, and is characterized by three especially marked trains of symptoms. These are: an eruption on the skin, intestinal derangement, and various nervous phenomena. Behind all these, however, there is a profound disturbance of nutrition.

The disease generally begins in the spring with some prodromata, such as neuralgia, muscular twitchings, dyspepsia, and general malaise. An erythematous eruption then appears upon the exposed parts of the body, the hands being first affected. Sometimes the skin is darkly bronzed, while occasionally it is red and swollen as in erysipelas.

The digestive organs become disturbed, appetite is lost, and there is diarrhœa or constipation.

The general nutrition is affected. All the subcutaneous fat disappears—then the muscles waste. The pulse becomes rapid and thready; the temperature declines. The mind becomes weakened—mania, dementia, and epilepsy may ensue. But generally there is a dull languor, with weakened muscles and partial loss of cutaneous sensibility. Finally, says one writer, "the patient, dried up, hard to the touch, inert, apathetic, motionless, insentient, with sunken eyes and deadened look, becomes a mere mummy, unconsciously awaiting the opening of the grave."

The symptoms disappear in part during the winter, but reappear in a more aggravated form in the spring. Thus the disease continues with winter improvement and summer relapses for from two to ten or twelve years. In the more chronic form, imbecility or suicidal mania are almost sure to develop. The patient suffers also from anæmia, dropsy, and intestinal hemorrhage.

Such are, in brief, the chief clinical features of the disease.

A remarkably exhaustive account of these, as well as of the etiology of pellagra, has been furnished in a report ("Annali di Agricoltura") published by the Italian minister of agriculture. From this we learn that pellagra is endemic in only four places in the world: Italy, Spain, Southern France, and Roumania. It is found chiefly in Italy, however, and only in the northern half of that country. Here, however, its ravages are frightful and appalling. In four provinces, those of Brescia, Padua, Piacenza, and Ferrara, one in every fifteen or twenty of the rural population is affected with this fatal léprosy. In thirty one other provinces the disease fastens upon from one to three per cent. of the rural population. We say rural population, because pellagra does not develop in the cities, though it is sometimes brought there.

The cause of pellagra is found in a study of the condition and mode of life of the Italian peasant. The disease prevails in the most fruitful and beautiful parts of Italy. But this beauty and fruitfulness are at the expense of those who labor to produce it. The farmer of Italy is one of the most ill-paid, ill-housed, underfed, and overworked creatures in the world, if we may credit the report referred to. His wages are from ten to twenty or twenty-five cents a day, upon which he must support himself and family. He works ten or eleven hours a day; his home is filthy and unwholesome; the water he drinks is bad; his food (and this is the vital point) consists chiefly of maize. This maize is often imperfectly ripened, and becomes the seat of the growth of a fungus (*Sporiosorium maïdis*). It is ground into flour; but, as the peasant can rarely afford a fire, the flour is made into large cakes, and a number of these are baked, or half-baked, at a time. Before they can be all eaten, decomposition sets in, and the food becomes too loathsome for anything but the voracity of famine. The peasant, of course, is not entirely confined to the corn. In the summer especially, frogs are largely eaten. Still poisoned and insufficient food form his usual supply. Since Italy is not the only country where overwork and starvation prevail, however, a more special cause of the pellagra must be looked for. This, it is asserted, is found in the poisoned maize.

The overwork and famine will not induce pellagra; neither will the diseased corn; but the two acting together are sufficient. This view, though controverted by some, is the one that is still generally held.

At a meeting of the Academy of Medicine of Paris not long ago, an interesting discussion took place regarding the pathology of pellagra. It was questioned whether we should regard it as a morbid entity due to a single specific cause, or should class it as a cachexia brought on by multiple causes. The opinion receiving the strongest endorsement was that pellagra was a disease in which nutrition was peculiarly affected because the causes were peculiar, but that it could hardly be said to be due to a single specific cause. Other agencies than those found in Italy might and do occasionally induce the affection. But it is the altered maize acting on an impoverished organism which most easily and surely produces the nutritive disturbances of pellagra.

The remedy for the disease is a matter for the statesman more than the physician. And the history of pellagra shows how closely the work and investigations of the medical men bear upon the welfare of the country. For these investigations have proved that to remove the pellagra from Italy it is only necessary to fed her peasants.

Yet, after all, this is not so easy. The great landed proprietors say that they cannot pay higher wages, for their estates are so heavily taxed. The Government cannot lighten the taxes because it must support its immense standing army. We have then the spectacle of a great country gradually reducing its inhabitants to cretinism (for pellagra is increasing) in order to sustain an armed peace.

### OUR ILLUSTRATIONS.

We have to congratulate our readers upon the full illustrations of President Garfield's case we are able to present. Dr. D. W. Bliss invited Mr. Max Cohn to make the drawings from the actual specimens (Figs. 1, 2, 3), and the masterly manner in which he has accomplished the task, together with the other explanatory cuts, leaves nothing to be desired. We have also to commend the faithful reproduction of the original drawings by the Moss Engraving Co.

Ethiops Mineral in Pertussis.—In an epidemic of pertussis, prevailing in Castelluchio, Dr. Tedolei claims to have obtained exceedingly gratifying results from the exhibition of ethiops mineral. To children under one year, fourteen centigrammes were given in a day, in four doses, this amount being gradually increased by thirteen centigrammes. The remedy is to be continued until cure is complete; but, as soon as its favorable action begins to be apparent, the dose is to be diminished.

Death Produced by Living Fish.—The *Journal de Médecine d'Algérie* reports eleven cases in which the custom indulged in by fishermen of killing fish with their teeth has been productive of various accidents. In two cases mentioned, a small fish became lodged in the respiratory tract, causing the death of the man.

## Reviews and Notices of Books.

Transactions of the Eleventh Annual Session of the Medical Society of Virginia, held in Danville, October 19 to 21, 1880.

The contents of this volume are limited, but the contributions are all practical, and show experience and good sense. We commend especially Dr. Joseph A. White's "Remarks about Common Functional Eye Troubles," Dr. Semple's report on "Recent Advances in Medicine," the discussion on "Summer Complaints of Infants," and Dr. C. R. Cullen's paper on "New Remedies."

The Mother's Guide in the Management and Feeding of Infants. By John M. Keating, M.D. 12mo, pp. 118. Philadelphia: H. C. Lea's Sons & Co. 1881.

This is a sensible little work, giving much valuable and practical information to the nursing mother.

A Guide to the Use of the Laryngoscope in General Practice. By Gordon Holmes, L.R.C.P., Edinburgh. 12mo, pp. 60. Philadelphia: Presley Blakiston.

The author has labored very successfully to give practical instruction in the use of the laryngoscope.

Indigestion, Biliousness, and Gout in its Protean Aspects. Part I.—Indigestion and Biliousness. By J. Milner Fothergill, M.D., London. 12mo, pp. 316. New York: William Wood & Co. 1881.

Dr. Fothergill is always entertaining and instructive. In the present work he fully sustains this reputation, not only in regard to his division and manner of treating the subject, but the thoroughly practical bearing of his observations. With the breadth of view which comes of large experience and extensive and varied study, he is able to overlook a vast field, and cull therefrom what may be of practical use to the worker and learner. And all in the charming style of an entertaining story teller. Such a gift is so seldom possessed by medical writers, that when found it deserves at least a passing reference.

The digestive act, involving as it does so many points connected with chemistry and physiology, is considered in all its manifold relations, and a happy medium of utility is reached in selecting and commenting upon such points only as can be turned to practical account by the physician. The proper preparation of food is a subject which claims much attention, and the reasons for the different degrees of digestibility of food-substances are given with clearness of expression and comprehensiveness of scope which leaves nothing to be desired.

The reader is made to believe that, although the digestive act is a complicated one, comprehending the function of every part of the intestinal tract, it is possible not only to understand it in its totality, but to study the relations of its different divisions. The different forms of digestion are described, and the departures from the normal standard are given in necessary detail. Particularly is this the case with liver digestion, our author availing himself of the recent labors of physiologists to throw light upon the so-called bilious derangements, and to explain the true relations of the bile with albuminoids. His remarks upon this subject are particularly interesting, and will serve to reconcile the popular notions

regarding liver indigestion with the demonstrated facts of scientific observation. In the treatment of biliousness, Dr. Fothergill goes back to first principles by showing in a clear and systematic manner how, after correcting errors, we may be able to prevent their recurrence. With no great faith in physic, he does not hesitate to prescribe a mercurial purge when such is required, and his reasons for so doing should be read by every routinist. In regard to other prescriptions the same remark may be made. Each and every direction is based upon the general principle that the physician's office is to understand Nature and be thus enabled to aid her; to interpret her wants and to make due allowances for any deficiencies of development or function which may be discovered. The relations of digestion to habits of life, to methods of living, and to the perfect nutrition of the body, are treated in a masterly manner, and abound in practical hints of the greatest possible utility to the practising physician. Altogether the work is a remarkably comprehensive study of a subject which is too little understood by the majority of medical men.

## Obituary.

### DR. JAMES P. WHITE, M.D.,

BUFFALO, N. Y.

A VERY wide circle of medical men will learn with deep regret of the death of Dr. James P. White, of Buffalo, which occurred September 28th.

Dr. White was born in 1810. He was educated at Middlebury Academy. He received his medical education at Fairfield Medical College, and subsequently at Jefferson Medical College, from which place he graduated in 1834. He immediately began practising in Buffalo. He subsequently studied in Edinburgh under Professor Simpson, and with prominent professors of medicine in Paris and Vienna. Dr. White's professional contemporaries included Drs. Julius F. Miner, Austin Flint, Frank H. Hamilton, and others generally well known. Dr. White was one of the prime movers, with Drs. Hamilton and Flint, in founding the University of Buffalo, with its Chamber of Medicine, in 1846. He was also foremost in founding the Young Men's Association, the Fine Arts Academy, the Edward Street Foundling Asylum, the Provident Insane Asylum, St. John's Episcopal Church, and the State Asylum for the Insane. Of the latter he was president from its completion. He was one of ten citizens who paid for the survey of Buffalo's beautiful park, laid out by Frederick Law Olmstead. Dr. White was the first professor in this country to give clinical lectures on midwifery, and was only successful after much opposition. In the winter of 1870–71 he was invited to deliver a series of lectures before Bellevue Medical College, of this city, in place of Professor George T. Elliott, who was sick. Dr. White delivered the lectures, but with characteristic generosity paid his own expenses and handed the fees to Professor Elliott. The faculty of the college presented him with a beautifully embossed copy of complimentary resolutions, and the students made a similar presentation. Dr. White was a contributor to the *American Journal of Medical Science* and the Buffalo *Medical Journal*. At the time of his death he was a member of the Erie County Medical Society, the New York State Medical Society, the American Gynecological Society, and the American Medical Association, of which he was the first vice-president. He was one of the vice-presidents of the International Medical Congress held in Philadelphia during the centennial year. In spite of his success and many honors, Dr. White was pre-eminently a domestic man. His home and family were always first in his mind. He leaves a wife and a son—James P. White.

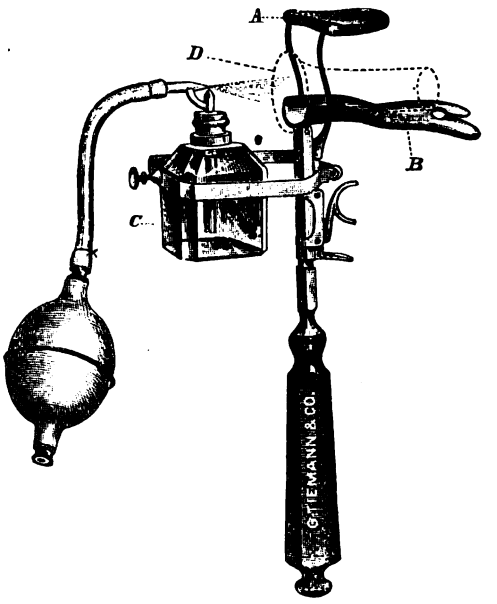
## New Instruments.

### SPECULAR TONGUE DEPRESSOR, MOUTH-GAG, AND SPRAY.

By C. J. CLEBORNE, M.D.,

MEDICAL INSPECTOR U. S. NAVY.

THIS form of tongue-depressor (B) will be found more powerful than others in controlling muscular action of the tongue in nervous persons and unmanageable children, while its reflecting surface specially adapts it to operations upon the throat and palate.




By it the tongue is not only depressed, but it may be forced forward if necessary, and the jaws may be separated to any extent by the gag and depressor.

The gag (A) is worked by a ratchet or thumb-screw, so as to be readily raised or lowered by the operator.

A Cohen's (C) or long-tubed atomizer may be used (with or without the glass tube, D) in the movable bottle-holder attached to the shaft of the instrument, so that the spray can be turned in any direction by the operator, who holds the handle of the tongue-depressor, and thus controls the mouth and throat of his patient.

The gag and atomizer may be detached by a simple movement, leaving the instrument an ordinary tongue-depressor.

The handle is made hollow to contain throat-brushes, caustics, or other articles needed in small operations upon the mouth, throat, or palate.

## ARMY NEWS.

*Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from September 25, 1881, to October 1, 1881.*

ALEXANDER, R. H., Major and Surgeon. Relieved from duty in Department of the East, to take effect October 1, 1881, and granted leave of absence for three months, with permission to apply for one month's extension; at expiration thereof to report by letter to the Surgeon-General. S. O. 215, A. G. O., September 19. 1881.

HUNTINGTON, D. L., Major and Surgeon. Relieved from duty as Attending Surgeon at the Soldiers' Home, D. C., and to report in person to the Surgeon-General for duty as Curator of the Army Medical Museum, and to take charge of the Division of Surgical Records of the Surgeon-General's office. S. O. 217, A. G. O., September 24, 1881.

BROWN, HARVEY E., Major and Surgeon, granted leave of absence for four months. S. O. 220, A. G. O., September 29, 1881.

KING, WILLIAM H., Capt. and Asst. Surgeon. When relieved by Asst. Surgeon Turrill, to proceed to Governor's Island, N. Y. H., and report in person at these Headquarters. S. O. 170, Department of the East, September 24, 1881.

EWEN, CLARENCE, Capt. and Asst. Surgeon. Granted leave of absence for one year on surgeon's certificate of disability, with permission to go beyond sea. S. 220, C. S., A. G. O.

DEWITT, C., Capt. and Asst. Surgeon, now on leave of absence, to report in person to the Governor of the Soldiers' Home, D. C., for duty as Attending Surgeon at the Home. S. O. 217, C. S., A. G. O.

HEIZMANN, CHAS., Capt. and Asst. Surgeon. Relieved from duty at Fort Townsend, W. T., and assigned to duty at Vancouver Barracks, W. T., as Post Medical Officer, relieving Asst. Surgeon Dickson. S. O. 135, Department of the Columbia, September 9, 1881.

HALL, JOHN D., Capt. and Asst. Surgeon. The leave of absence granted him in S. O. 141, August 4, 1881, Department of Dakota, is extended three months. S. O. 220, C. S., A. G. O.

SKINNER, J. O., Capt. and Asst. Surgeon. Relieved from duty at Fort Verde, A. T., and to proceed to Wilcox, A. T., for duty as Acting Medical Purveyor in the field. S. O. 107, Department of Arizona, September 17, 1881.

CUNNINGHAM, T. A., Capt. and Asst. Surgeon. Granted leave of absence for one month on surgeon's certificate of disability. S. O. 102, Department of the South, September 29, 1881.

GRAY, WILLIAM W., First Lieut. and Asst. Surgeon. Relieved from duty at Fort Canby, W. T., and assigned to duty at Fort Townsend, W. T. S. O. 135, C. S., Department of the Columbia.

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THE BEAUTIFUL NURSERY conceit, that the sweet smile of the slumbering infant is caused by the whisper of an angel into its ear, is destroyed by the revelations of unemotional science. Dr. Charles Bell attributes the smile to reflex muscular action due to intestinal flatus, the rotation upward of the eyeballs and the tremulous movement of the lips being due to a far different cause than a communication from the unseen world.

## Medical Items and News.

SPONTANEOUS ANEURISM OF THE COMMON CAROTID CURED BY DIGITAL COMPRESSION. — In a Spanish journal, Sr. Parada Santin reports a case of spontaneous aneurism of the common carotid cured by digital compression. The tumor was situated in the region of the internal extremity of the clavicle, and measured six centimetres in length and four and a half in width, extending up as far as the lower border of the hyoid bone. The patient, a woman aged sixty-four, was placed under proper hygienic conditions and digital compression was exercised upon the artery between the sac and the heart. Becoming dexterous in this procedure, she practised it three times a day, at rising, at noon, and at night, for the space of a half-hour each time. At first the patient did not succeed in arresting the flow of blood through the sac, although the pulsation was rendered very feeble. Gradually the duration of the procedure and the number of times it was applied were increased, until at length the circulation of blood through the aneurism was arrested for six hours each day. At the end of four months the tumor had decreased in size by a centimetre in length and a half-centimetre in width; the impulse was feeble, the walls of the sac had not diminished in thickness, nor were coagula appreciated in its interior. A final recovery followed, only a slight increase in thickness of the walls of the carotid at the point affected indicating where the aneurism had been. The aneurism had been cured without the intervention of a clot, solely by the retraction of the three arterial tunics of the sac.

PREGNANCY AND CARIES OF THE TEETH.—During pregnancy many women suffer from caries of the teeth and dental neuralgia. The calcareous salts required for the development of the fetal skeleton must be supplied by means of an increased ingestion of these materials on the part of the mother; in default of this augmented consumption, the nutrition of the maternal bony tissues is affected and dental caries result. Many pregnant women have a morbid appetite for calcareous and other mineral substances. Preparations of calcium, especially the phosphate and hypophosphite, should, in view of the facts mentioned, be administered to enceinte females suffering from the above dental troubles.—(*Gazz. delle Clin.*)

A PSEUDO-PERICARDIAL FRICTION-SOUND. — The *Gazzeta Medica Italiana* mentions the following case: The patient was a man aged fifty-six, suffering from asthma and fatty degeneration of the heart. During exacerbations of his asthmatic attacks, a pericardial friction-sound was distinctly audible, and upon it was based the diagnosis of pericarditis. On necropsical examination the following was found: instead of pericarditis, only an old macula tendinea; the coronary arteries in a state of advanced atheroma and extremely hard and rough to the touch. It was supposed that these vessels, owing to their abnormal condition, had given rise to a sound simulating a pericardial friction-râle.

A CASE OF RIGHT HEMIGLOSSITIS.—In the *Sentido Catolico de las Ciencias Medicas*, Dr. Parella reports a case of right hemiglossitis. When first seen the patient was upon her knees in bed; she was cyanotic, and in imminent danger of asphyxia from me-

chanical obstruction to respiration. The right half of the tongue was increased to three or four times its normal size, the swelling extending to the submaxillary glands and the corresponding lymphatic ganglia. The pain experienced by the patient on the right side of the throat was intense. Several incisions having been made into the sublingual mucous membrane, a diminution in the size of the tongue, and some alleviation of the symptoms, followed. In view of this result, a dozen leeches were applied to the infra-hyoid region. In the afternoon the tongue had diminished considerably in size, and breathing was much more free. Twelve leeches were again applied, and the administration of wine and the application of warm cataplasms ordered. On the sixth day the affected organ had returned to its normal condition. The case is not alone interesting because only one-half of the tongue was involved, but also on account of the rapidity of the inflammatory process. The patient had gone to bed without any symptoms, and had been awakened at four o'clock in the morning, suffering as described. No cause could be ascribed for the phenomenon.

Increase of Mortality in Paris.—In 1877, the mortality in Paris was 23.89 in 1,000; but in 1880 it has increased to 28.90 in 1,000, a figure exceeding the death-rates of London and Brussels. This increase seems to have been due to the prevalence of typhoid fever, small-pox, and diphtheria.

Contributions to the Study of the Phenomenon of the Tendon Reflex.—In spinal epilepsy, when a patient in the sitting posture crosses one thigh over the other, we observe the phenomenon of convulsion or trepidation of the dependent foot, a to-and-fro movement of the extremity, sometimes propagated also to the opposite side. In a healthy person, sitting in the same position, a similar movement may be produced by striking the ligamentum patellæ. Professor Prevost's experiments in regard to the tendon reflex have yielded the following conclusions: 1st, sections of the spinal cord and nerve-roots in rabbits have proved that the integrity of the sixth pair of lumbar nerves (corresponding to the third or fourth lumbar pair in man), is necessary for the production of this phenomenon. 2d, a section made at the level of or a little above the emergence of the sixth pair of lumbar nerves, abolishes the phenomenon. 3d, anæmia of the spinal cord of the rabbit, produced by the compression of the aorta, modifies the phenomenon of the tendon reflex; after a few seconds' compression, it is exaggerated, but subsequently it diminishes progressively and disappears entirely after forty-five seconds. 4th, when the blood is again allowed to flow, the phenomenon reappears after an interval of time varying from a few seconds to a minute or more. The more thorough and the more prolonged compression has been, the more retarded will the return be. 5th, anæsthetics, if anæsthesia be profound, abolish the tendon reflex. The disappearance of the phenomenon during anæsthesia may be considered as a prodromatic symptom of collapse. 6th, the phenomenon of reflex tendon, as well as the epileptoid convulsion of the foot, is transmitted from the opposite side. This fact is well marked in animals whose spinal cord has been divided in the dorsal or dorso-lumbar region, a procedure which is followed by an exaggeration of certain reflex phenomena. These results have led Prevost to infer the spinal reflex nature of the tendon reflex.—(*Revue Méd. de la Suisse Romande.*)

An Infantile Neurosis.—Sr. Benavente, in the Spanish Academy, reports an interesting case of spasmodic salaam, or irritant spasm. The patient, a child, without any premonitory symptoms whatever, would suddenly nod his head in a violent manner, and fall to the ground unconscious. These attacks would last a few seconds, the patient rapidly returning to consciousness and continuing his play without any knowledge of the accident which had befallen him. Three of these attacks occurred in a half-hour. In this disease the patient sometimes falls forward, sometimes backward, sometimes to one side or the other. Its causes are congestion of the cord, and reflex phenomena due to worms or digestive disturbances. The treatment, consequently, should be antispasmodic, revulsive, purgative, or anthelmintic, according to the causal indications. In the case reported, the patient had been suffering from a scrofulide; a thapsia plaster was applied over the vertebral column, and the malady was completely cured as soon as the characteristic eruption appeared. The patient had had no attacks for three months.

The Oldest Inhabitant.—Joseph Martinho Coutinho, of Cape Frio, Province of Rio de Janeiro, Brazil, is reported to be nearly one hundred and ninety years of age, having been born, it is claimed, in 1694. He is said to be the ancestor of 42 children, 123 grandchildren, 80 great-grandchildren, and 20 great-great grandchildren. Like all those old gentlemen who have passed their first centennial, Senhor Coutinho undoubtedly gets up at four in the morning, delights in chopping wood by the cord, breaks in restive horses, walks twenty miles without the slightest fatigue, and is blessed with a fine appetite, good eyes, and the best of health. Born in 1694—George Washington's nurses will have to hide their diminished woolly heads.

An Insect the Cause of Epidemic Cholera Morbus.—In a communication to the *Union Médica* of Venezuela, Dr. Beauperthny, of the Universities of Paris and Caracas, asserts the cause of epidemic cholera morbus to be the sting of an insect belonging to the order hemiptera, class homoptera. Puncturing the skin of animals, the insect deposits its virus in the subcutaneous tissue. The puncture resembles that of a mosquito, and does not give rise to much pain. When the point affected is rubbed immediately after the introduction of the poison, and before the latter has been absorbed, livid greenish spots are produced similar to those resulting from the bite of venomous serpents. One sting of the insect is not sufficient to cause fatal results; the gravity of the disease varies according to the number of punctures made and their location. The author then points out the analogy existing between the symptoms resulting from the bite of venomous serpents and the symptoms of cholera morbus. Investigations begun in 1838, made in various localities and continued up to date, lead Dr. Beauperthny to assert that fevers depend upon a vegeto-animal virus, whose introduction into the body in the majority of cases is a true inoculation.

The Use of Electricity in Labor.—M. Apostili, in *Gazette des Hôpitaux*, from a total of five hundred electrizations of the uterus derives the following conclusions:

*First.*—That faradization of the uterus is entirely harmless.

*Second.*—Faradization is a uterine sedative.

*Third.*—Faradization abridges considerably the convalescence and accelerates the involution and retraction of the uterus. That it also hastens the restoration and promotes regularity of function.

*Fourth.*—Faradization guards the woman from the uterine complications of labor.

*Fifth.*—That faradization is the correct preventive treatment of uterine malpositions.

*Sixth.*—The action of faradization on the uterus is similar to that of ergot, only its action is more prompt and more energetic.

In conclusion, it is a marvellous therapeutic agent in obstetrics, simple in application, rapid and energetic in action, perfectly harmless, and can be interrupted or renewed at will.

It not only restores the uterus to the normal condition, but its use prevents further uterine complications.

PRELIMINARY EDUCATION.—At the sixty-first annual meeting of the Medical Society of Oswego County, held at the court-house in the city of Oswego, N. Y., the following resolutions were reported by Dr. C. M. Lee, to whom the matter had been referred, and adopted:

*Resolved*, That we, as a society and individually, will give no encouragement to, nor take into our office, any student with a less standard of literary acquirement than entrance examination to the sophomore year of an incorporated college, or that has passed the regents' advanced academic examination.

*Resolved*, A graduate of a normal school with three years' experience in teaching, with a knowledge of Latin to the sixth book of Virgil's Æneid, will be accepted in place thereof.

*Resolved*, That these resolutions be printed, and a copy sent to each county medical society in this State, to each member of this society, and to all gentlemen practising as physicians and surgeons of our school, so far as known.

*Resolved*, That a copy of this be sent to the MEDICAL RECORD for publication.

CHAS. R. LEE, *Secretary.*

[This is a move in the right direction, and is an excellent example for other county societies.—ED.]

SEPTICÆMIA RESULTING FROM A LEECH-BITE.—The *Gazz. Med. Ital.* quotes the following case: A Bernese had been suffering from toothache for several days, and to relieve it he followed out the advice of a dentist by applying a leech to the gum. Two hours later the pain increased, and the lip became the seat of an inflammation which extended to the cheek, neck, and breast. The following day the head was swollen, respiration was difficult, and the patient was in high fever. A few hours' later, he was attacked with delirium tremor, and convulsive vomiting. He died during the night of the second day, from septicæmia, as demonstrated by the autopsy. The leech-bite was larger than the ordinary, and its borders were black and gangrenous. A poison of unknown nature had evidently gained access to the system through this wound.

A NEW PHYSICAL SIGN OF ŒSOPHAGEAL STENOSIS.—In stenosis of the œsophagus, when the portion above the stricture was distended by gas, Dr. Feletti observed an unusual tympanitic sound upon percussing the front of the thorax. In order that he might be enabled to trace out the limits of the gastric region, he administered an effervescent powder to one of his patients; the gas, however, instead of distending the stomach, gave rise to an area of tympanitic sound over the sternum and as far as the left parasternal line. The fact that the bougie could not be passed down farther than thirty-five centimetres, together with the rejection of food and drink, indicated an obstruction, which was sufficient to arrest the downward passage of the gas. That this sound was not that of the stomach conveyed through the thorax was proved by a second experiment; a powder was again administered, but the thoracic sound was not developed, the gastric area of tympanitic sound being, however, well marked. At this time the patient was not suffering from vomiting. In other instances, Dr. Feletti succeeded either in rendering this chest-sound feebler and higher by drawing off some of the distending gas, or increasing the area by giving an effervescing powder.—*Gazz. Med. Ital.*

RECORD VS. RICORD.—Although this is not a journal of syphilography, one of our esteemed European contemporaries calls it the "Ricord."

PAIN CURED BY HYPODERMIC INJECTION OF PURE COLD WATER.—In the *Gaceta Medica* of Venezuela, Dr. Ponte relates his experiences in several instances in which he employed water hypodermically for the relief of pain. The first case was that of a boy who was suffering from an attack of intercostal neuralgia, so severe as almost to endanger the life of the patient by interference with respiration. Not having any morphine with him, the author determined to work upon the imagination of the sufferer by injecting pure cold water over the location of the pain, a procedure which, much to his astonishment, was followed by permanent relief. Impressed with this fact, Dr. Ponte resolved upon further experiments. The next case was one of toothache. In order to eliminate the imaginative element, he informed the patient of the treatment to be employed, for the execution of which permission was rather reluctantly given. An injection practised upon the side of the face nearest to the pain was followed by considerable ardor, but in less than a minute the odontalgia had subsided. Animated with these results, he employed cold water injections in a variety of different pains, always with happy issue, even in cases where morphine had been the drug previously administered. Another patient had been suffering nine years from intense gastro-intestinal neuralgia, which baffled all remedies. The pain came on after meals, and its violence was such as to cause her frequently to faint. When first seen by the writer, she was utterly prostrated. Two injections relieved the pain, and subsequent tonic treatment restored her to perfect health. Several hundred cases have been treated in the manner described, with good results. No explanation is given as to the action of the remedy.

PLEURISY ON THE LEFT SIDE, WITH EXUDATION, PULMONARY AND PLEURAL GANGRENE, ICHORÆMIA—COMPLETE CURE AFTER TWO OPERATIONS OF THORACENTESIS.—In the *Gazzeta Medica*, Dr. Zannini relates the following case: The patient, a lady aged forty, and of good constitution was attacked with pleurisy on September 20th. The attending physician regarded this as an ordinary cold, and the patient, after a few days' treatment, was allowed to go about. A week later she was forced to go to bed again, suffering from a cough which brought up nauseating sputa. Another practitioner, being called in, diagnosticated pleuritis, with effusion on the left side, and pulmonary gangrene. Under rational treatment the

patient improved, but on the 28th of October, a change for the worse took place. The face was bathed with a cold sweat, the features were pale and troubled, and the wandering eyes, cyanotic lips, and panting respiration, intermingled with sighs, expressed the anxiety provoked by the feeling of suffocation. The pulse was 150, respiration 60, temperature 104°. The left pleural cavity contained both gas and fluid. Thoracentesis was performed, and two litres of a foul-smelling, purulent liquid, intermingled with putrid shreds of fibrinous membrane, were removed. The canula was allowed to remain, and three times a day the pleural cavity was washed out with a two per cent. solution of carbolic acid. In addition to this, the patient was put under antiseptic and tonic treatment, alcohol, quinine, and cinchona being administered; vapor of turpentine inhalations were also advised. Under proper management a favorable progress was made. One day, however, during an injection of the solution, the lady was seized with alarming cough, accompanied by symptoms of suffocation, and the writer was astonished to see the injected fluid issue from the mouth, the gangrenous process having created a communication between the bronchi and the pleural cavity. A diminution of the quantity and the number of injections became necessary, on this account Upon two occasions the urine exhibited the characteristic olive tinge due to absorption into the system of carbolic acid, hence a hyposulphite solution was substituted. On November 16th, thoracentesis was agained performed, the patient having developed symptoms of septicæmia. More than half a litre of a greenish matter, intermingled with gangrenous shreds of lung, issued forth, emitting an intolerable stench. Antiseptic injections, the first one of which was attended by a vomiting of the solution, were again practised, and finally the fluid returned as clear as it entered. Subsequently the cavity became obliterated, and the patient recovered her health completely by the middle of May. The appetite and complexion are now good, the lady is well nourished, and not troubled by catarrh, cough, pain, or dyspnœa.

Varix an Hereditary Affection.—In the *Revista de Ciencias Médicas*, Dr. Morales alludes to a family in which a varicose condition of the veins seemed to be hereditary. A patient with this affection came under his observation, and, upon further examination, he found that her son, her sister, and a daughter of the latter, were suffering from the same condition. It furthermore appeared that the mother of the patient and another sister, both deceased, had also had varices. The writer thinks that a recognition of the hereditary element in the disease may lead to a discarding of operative procedures.

Troubles of the County Society in Regulating the Practice of Medicine.—The Chairman of the Board of Censors of the County Medical Society, Dr. Mundé, has written to the various daily papers, calling attention to the difficulties met with in attempting to enforce the law regulating the practice of medicine.

The chief obstacle is the indifference of the Grand Jury. This body several times has refused to bring indictments, when every evidence that the law had been violated was presented. Several persons who have been arrested have been let off and are now practising medicine again.

Tetanus in Baltimore prevailed so extensively during July and August as to have almost the character of an epidemic, Twenty-six deaths from it were reported during the period between June 30th and August 3d. In addition, there were five deaths from trismus nascentium. The source of the wound was, in most cases, toy pistols, and the seat of injury, as a rule, on the hand.

The cases of tetanus during this period nearly all ended fatally. Various forms of treatment were tried, among them nerve-stretching, but not often with success. In the case where the nerve was stretched, the symptoms improved temporarily, but the patient eventually died.

There were no unusual meteorological conditions to account for this prevalence and malignity of tetanus. The editor of the *Maryland Medical Journal* has furnished some interesting preliminary studies regarding it.

Death of Dr. Robert McIlvain.—Dr. McIlvain died in this city recently, of cancer of the stomach. He was educated in this country and in Paris, studying for a time under Claude Bernard. He lived in Ohio for a number of years; then came to New York. He was well known to the profession here both for his professional knowledge and social qualities. He was especially remarkable for his memory, and his remarks at society meetings always excited much attention from the earnest manner in which he would roll off facts and figures on every subject.

Tri-State Medical Society.—The seventh annual meeting of the Indiana, Illinois, and Kentucky Tri-State Medical Society, will be held in the city of St. Louis, Mo., Tuesday, Wednesday, and Thursday, October 25, 26, and 27, 1881. The profession of the "Mississippi Valley" are cordially invited to attend.

Dr. Tanner has been reported dead; but later accounts state that he is living and preparing for a fifty-day fast.

A New Medical School has been organized at London, Ont. The Canada *Lancet* says of the promoters: "They will find it, however, no bed of roses (even under the most favorable circumstances), no sinecure, no crown of glory, but plenty of drudgery and very little for it. We speak from nearly twenty years' experience in connection with a comparatively successful medical school."

Koumiss and Maltine.—Maltine added to koumiss is said by Dr. C. N. Fowler to make a more palatable and nutritious mixture than either separately.—*Cincinnati Lancet.*

Obstetric Aphorisms.—Dr. H. Webster Jones, of Chicago, as Chairman of the Committee on Obstetrics, closed his report to the Illinois State Medical Society, with the following valuable and suggestive sayings. With these as his guide, the practice of the obstetrician of to-day would furnish less work for the gynecologist: 1, an intelligent confidence once established between patient and physician does much to banish the terrors of the lying-in room; 2, it is possible to foresee and prevent the occurrence of the almost fatal form of eclampsia gravidarum; 3, cleanliness is especially next to godliness in the case of the accoucheur, its absence renders one liable to professional homicide; 4, the modern midwifery must not be meddlesome, but must be mediatorial in the sense of palliating suffering, expediting nature's processes by well-proven means, and removing scientifically all inexplicable, accidental, or morbid states and conditions—idleness is no longer an approved qualification for a degree of obstetrics; 5, the hand is the best uterine dilator; 6, the forceps

should never be employed until the os uteri is dilated or dilatable, and then not unless the membranes have been ruptured, and labor delayed unnaturally for at least an hour; every practitioner should become skilful in their use, and they should never be left at home for fear of temptation; 7, unnecessary and avoidable delays in labor are fruitful sources of gynecological practice, they promote inflammation and sepsis; 8, the patient's hopeful confidence, and the physician's industrious attention, actually contribute to the physiological elements of labor; anæsthetics here are, to say the least, superfluous; 9, bimanual aid in effecting the deliverance of the placenta is not only proper, but advisable; skilfully rendered, the cry of "uterine inversion" becomes no longer a bug-bear; 10, the continuous and intelligent counter-pressure over the fundus uteri during the child's exit, the delivery of the placenta and the period of frequent oscillation, be that a shorter or a longer time, is a safeguard never to be neglected; 11, pursuant to the same end, the application of the bandage, and its continuance, as long as the uterine globe can be felt and embraced by it above the pubis, contributes not only to comfort, but to speedy involution; after the seventh day, close pressure must be interdicted; 12, puffiness of one ankle, with tenderness of the corresponding groin, and an abnormally quickened pulse, with or without copious sweating, noticed within the first ten days after labor, betoken the presence of phlebitis, and the possibility of embolism or thrombus, and resultant sudden death; 13, the duties of an obstetrician are not concluded until a careful examination, from six to eight weeks after parturition, proves the integrity of the organs involved.

Renal Cylinders and Cylindroids.—Dr. Vincentini divides these bodies into two groups: the first comprises those which offer a more or less easily discernible filamentous structure, and includes the elementary or fibrinoid filament, the cylindroid, which gradually passes into the compact cylindroid, and, through intermediate forms, into the apparently homogeneous hyaline cylinder. The second series includes those products which are homogeneous in structure, and embraces hyaline and waxy cylinders.

According to the author the cylindroids and their allied forms originate from a pathological secretion of the tubular epithelium, analogous to that of a mild catarrh; hyaline cylinders from a secretion analogous to that of a more intense catarrh. Doubt exists as to the origin of the waxy cylinders; they may either consist of the broken-down epithelium of the tubuli, or of that of the Malpighian glomeruli. The latter view, that of Langhans, the author combats.

Case of Acute Chorea—Treatment with Veratrum Viride.—Dr. B. F. Gary, of Abbeville, S. C., in the "Transactions of the South Carolina Medical Association, 1881," reports the following case: F. B——, while at college the past winter, suffered from a very severe attack of acute rheumatism, and while convalescing from this disease, and when it was supposed he was nearly well, irregular movements of the muscles, so characteristic of chorea, were noticed. At first these movements were confined to the left side, but as the disease advanced they became general. He was put upon the most approved treatment—such as iron tonics, oxide of zinc, chloral, arsenic, cimicifuga, racemosa, etc. No benefit was derived from the administration of these remedies, and as the symptoms were becoming more aggravated, such as difficult deglutition, the drawing of the mouth to one side, the rolling of the eyes in various directions, flushed face, pain in the head, constant movement of the hands and feet, quick pulse, etc., threatening a fatal termination from congestion of the brain, it was determined to put him upon large doses of veratrum viride, ten drops every two hours, increasing two drops each dose until nausea or a considerable reduction of the pulse should be observed.

Just after the administration of the fourth dose of eighteen drops, there was free emesis, and a reduction of the pulse to fifty beats, with great prostration; this, however, under a dose of stimulants, soon passed off, when it was observed that there was great improvement in the choreic movements, which just before had been so violent and serious. This treatment was continued in smaller doses, increasing the quantity in proportion to the movements induced by the chorea. The case continued to improve daily, and at the end of two months was dismissed, cured.

Borate of Chinoidine—A New Febrifuge Proposed by Dr. De Ury.—Considering the current opinions in regard to the causes of paludal fevers and the antiseptic properties of boracic acid, Dr. De Ury thinks that the combination of this acid with the amorphous alkaloid cinchonoidine may prove a valuable acquisition in the treatment of malarial fevers in the place of the much more expensive sulphate of quinine, the price of the former remedy being less than one-twelfth that of the latter. A gramme of the borate of cinchonoidine is equivalent in its effects to 66 centigrammes of the sulphate of quinine.—*Gaz. Med. di Roma.*

Ditana Digitifolia.—With this plant, a native of Brazil, Prota-Giurleo (*Il Farmacista Italiano*, 1881), experimented upon nursing women. It was found that under the administration of ditana digitifolia, either in the form of an aqueous infusion or an ethereo-alcoholic tincture, milk could be made to flow from the mammæ upon the slightest pressure. The drug has a selective influence over the mammary glands. It promotes, increases, accelerates, and even brings back the lactic secretion. The author has prepared a liqueur named the "Galattofero," which is readily administered to mothers and nurses. Of this tincture one to three tablespoonfuls are added to half a litre of water, or, better, to infusion of chamomile, and thus taken in divided doses during the day. The remedy is recommended in cases of mothers and nurses whose milk is scanty, and nurses in maternity hospitals, who are compelled to suckle several children.—*Riv. Clin. di Bologna.*

Phosphate of Bismuth.—Tenedat (*Bull. Gén. de Thér.*, 1881), by reason of the extreme variability in composition of the commercial nitrate of bismuth, proposes to substitute the phosphate of bismuth for the subnitrate. The dose of the phosphate is less (one to two grammes), and it may be employed under the same circumstances. To prepare it, phosphate of sodium is dissolved in distilled water, and this raised to the boiling point in a glass or porcelain vessel; to the boiling solution acid nitrate of bismuth is added, a little at a time; the reaction begins immediately, and after a protracted boiling the phosphate of bismuth is precipitated in the form of a white, dense granular powder, which readily separates from the acid liquid. It is washed upon a filter until the filtered fluid exhibits a neutral reaction, and is then dried.

# Original Lectures.

## FOREIGN BODIES ON THE CONJUNCTIVA OR CORNEA.

A Lecture Delivered in the University of the City of New York.

By D. B. ST. JOHN ROOSA, M.D., LL.D.,

Professor of Ophthalmology.

Gentlemen: I shall to-day deviate somewhat from my usual custom, and lecture on a subject which I am unable to illustrate by actual cases. I have selected the subject because it is one of the topics of which the general practitioner should have a certain amount of positive knowledge. The subject of the present lecture is foreign bodies in the conjunctiva, or upon the cornea, not foreign bodies *in* the eyeball, but foreign bodies *on* the eyeball, or under the eyelids. When we come to consider the subject of foreign bodies within the eyeball, we shall have reached one which is so serious that the general practitioner, unless he be a surgeon who has given some special attention to diseases of the eye, is not able to grapple with it successfully. It is an important subject of itself, and I have already, in a general way, lectured upon it.

The questions upon which I propose to speak now, belong among those with which every general practitioner should be thoroughly familiar. This subject may be the very first to engage his attention. The next time he rides in a railway carriage, or goes within range of the droppings from the elevated railway, or walks about in the dust which a March wind whirls in the streets of a city, he may become the subject of such an accident, or he may be called upon to relieve one who has been subjected to a like exposure. It is a question which may come to the young general practitioner in the very first hours of his practice. Some farmer may come to him from the field, upon whose cornea there has lodged a beard of grain; or some child may be brought who has been climbing a tree, and there has dropped into the conjunctival sac a bit of bark, or twig, or a bud.

The subject is a practical one. Ophthalmologists are sometimes regarded as unpractical people. We are thought to be men who deal with mysterious signs, + and −, and "V equals $\frac{20}{40}$," etc., and other profound subjects, which you have had occasion to study with me. For the instant, we may admit that the ophthalmologist says much which is abstruse and obscure, and which the general practitioner may dismiss from his mind at once with a reasonable degree of propriety; but here is a subject which he cannot dismiss.

The conjunctiva, as it lines the eyelids and is reflected over the eyeball, forms two sacs. [The reflections of the conjunctiva were illustrated upon the blackboard.] A foreign body getting into the upper conjunctival sac is much more likely to escape observation, and is much more difficult to remove, than when one gets into the lower conjunctival sac. The lower one is readily everted, and how easily it takes on inflammatory conditions has been shown in a previous lecture.*

* See Medical Record, vol. xix., p. 398.

It is stated by competent authority (Dr. Loring), that the lower conjunctival sac, in a very large proportion of the people living in this city, is now hyperæmic, on account of causes concerning which we have recently heard a great deal. We know that this portion of the eye is much more readily reached by foreign bodies than any other, and, on the other hand, a foreign body lodging there is very easily removed. So there are advantages, as well as disadvantages attending this anatomical condition of things. But when we reach the upper conjunctival sac, we have to deal with a part which requires a trained hand in order to expose it fully. I have already taught you how to evert the eyelid. You know that it requires some dexterity and a little practice in order to be able to evert the upper lid properly, so as to expose the upper conjunctival sac completely. Yet it may be the first surgical manœuvre which you will be called upon to perform. If you are unable to do so properly and readily, and remove the foreign body, and thus give your patient relief, you are at once exposed to the risk of being regarded as an incompetent practitioner. We will dismiss the lower sac, because any one of you is competent to remove a foreign body from it; for you have simply to pull the lid down and readily remove, with a handkerchief stretched over a finger, any foreign body which has not actually become imbedded in the conjunctiva or tissues beneath it.

But such foreign bodies as clippings of steel, particles of sand, or of coal, seeds, and so forth, may get into the upper conjunctival sac. A foreign body which very frequently enters the eye is a cinder from a locomotive. There are some curious cases belonging to this class of foreign bodies in the conjunctival sac. I was once called to an asylum for the insane, to remove bits of straw from the upper conjunctival sac which the patient had put into her own eyes.

Even large particles may enter the upper sac without suspicion. I have always remembered the case of one of my colleagues—Dr. Hackley, at the N. Y. Eye and Ear Infirmary—in which he found a small splinter of wood, that had been there probably for years, and caused chronic conjunctival inflammation.

I also recollect a case to which I alluded in my prefatory remarks—that of a child—who was brought to me from a neighboring town, said to be suffering from conjunctival catarrh; and indeed it was suffering from a very severe inflammation of the conjunctiva. But one very noticeable feature of the case was that the inflammation was limited to one eye. This, of itself, was a suspicious circumstance. Diseases like catarrhal conjunctivitis usually affect both eyes at the same time; but in this case one eye was perfectly sound, while the conjunctiva of the other was intensely inflamed. It is not a suspicious circumstance to find one eye perfectly healthy and the cornea of the opposite eye inflamed. It is not suspicious to find one sclera inflamed and the other healthy, nor is it peculiar to find one retina or one lens the seat of disease, while the same structures in the fellow eye are normal; but it is suspicious to find the *conjunctiva* of only one eye affected, and it should immediately arouse the suspicion that some local cause is producing the inflammation.

This little girl was being treated for conjunctival catarrh, and the most energetic measures had been resorted to; yet, despite all this, perhaps on account of it, the eye became no better, but decidedly worse.

Following the routine plan which every practitioner should follow in treating diseases of the eye, I examined everything connected with the organ which possibly, not probably, might explain the cause of such a condition. I everted the upper eyelid, not without difficulty and objection on the part of the father and the mother—one of the obstacles with which you will have to contend—and I found a very small bud from a cherry-tree, up and down which this child had been climbing, and there was the *fons et origo* of the conjunctival catarrh for which it had been so vigorously but unsuccessfully treated. All that was necessary was to remove the foreign body and allow nature to cure the case.

This child had been treated so assiduously that it had received internal remedies for some length of time. And now need I tell you that it is worth your while to learn how to evert the upper eyelid? How shall it be done, and how many of you are able to do it? When you begin to practice, neglect no precaution or care which will enable you to surely perform the operation you undertake. Remember that if you fail, you will not only lose your own confidence, to retain which constitutes nineteen-twentieths of the battle, but you will soon excite the suspicion that the young practitioner from New York is not so thoroughly qualified as it was hoped he would be found to be.

In the first place, the patient, so far as possible, should be in a comfortable position. He may be seated in a chair with the head well supported. With a foreign body in the conjunctival sac the patient is in distress, and his eyeball is not entirely under his control. He is not as able to respond to your requests as to where he should look as though it were not there. Get the head, therefore, properly supported, and then with the thumb press the integument of the lid against the eyebrow, so as to put it upon the stretch, and tell the patient to look down—not to turn the head down, but to turn the eyes down. Then catch the eyelashes and edge of the lid with the fingers of the other hand and turn the lid quickly over the thumb; in the meantime the patient looks down constantly. You see how readily, by this simple manipulation, I have succeeded in exposing our friend's conjunctiva, which we find to be hyperæmic in a marked degree, and yet, unless you have practised these movements somewhat, you will be mortified when you make your first attempt to perform this simple operation with lookers-on around you. An intelligent assistant will be of advantage, and there is scarcely any place in which you cannot secure one to hold the head, and his determination must be that the patient shall not turn his head down, but shall look down, and thus turn the eyes downward.

Next, how are you to remove the foreign body after you have found it? How shall you get rid of that little black speck which has been the cause of so much discomfort to the patient—which, perhaps, has given him a very uncomfortable night, has concentrated all his attention, and almost led him to curse railroad carriages? It is usually a simple matter after having everted the lid, but there is method even here. If it is a lady who has thus been selected, she will have her own handkerchief in her pocket, and she will feel better satisfied if you will use that rather than your towel, for she will not feel sure that the towel is clean, while she knows that the handkerchief is.

Remove the foreign body with the handkerchief then, and *do not throw it away*. Show it to the patient, and be sure that he or she recognizes it—and why? The little shallow depression which that foreign body made in the conjunctiva will give a sensation of discomfort, and sometimes, not always, give rise to the same symptoms that existed before the foreign body was removed. It is well, under such circumstances, to have the proof of what you have done, lest the patient say, "He said he took it out. I paid him for removing it, but I know that it is in there yet."

In the majority of cases, however, the feeling of comfort is so great, the relief is so instantaneous, that there is no occasion for such unpleasant complaint.

You will seldom need any instrument for removing a foreign body from the conjunctival sac, beyond the hands and a delicate piece of cambric or a smooth, well-worn towel. The patients very seldom need any after treatment. It is well to direct that the eye be bathed with warm or cold water, and protected from dust, and the blood-vessels will soon return to their normal condition. I should mention that occasionally a patient will return, insisting that a foreign body is in the eye, when there is none there. A few evenings since, a medical gentleman came to me, saying, "I have something in my eye, and I am suffering very much. My friend, Dr. ——, says there is nothing in it, but I know that there is." But I was unable to find it, and the man's indignation was very great, and he exclaimed, "I know it is there, for I feel it." I then examined his eye very carefully again, after which I said to him, "You may be certain that there is no foreign body in your eye." I first examined his eye by the aid of ordinary light, but when he was so positive with reference to the presence of the foreign body, I took him to a gas-light and with a two-inch lens, threw the concentrated rays into his eye, and examined the entire conjunctival space, and then I was able to answer him in the most assuring manner. What was the cause of his sensations? An attack of conjunctival catarrh was beginning. Many of those cases begin very suddenly, as though something struck or entered the eye, and you must not be deceived and take it for granted that there is a foreign body in the conjunctival sac simply because a patient has a sensation as though some rough substance is pressing upon the cornea.

### FOREIGN BODIES ON OR IN THE CORNEA.

There are some foreign bodies which seem specially prone to strike the cornea if they enter the eye, and one very apt to get there, and particularly dangerous, is a bit of gun-cap. These particles sometimes enter the cornea and may be buried deeply among its layers. Then the ordinary filings from machinery may fly and strike the cornea and be buried in its tissue. Usually, however, these bodies lodge in the epithelial layer. The question of course at once arises, when a case of this kind presents itself, Where is the foreign body? If it has entered the eyeball, an accident has occurred upon which we do not at this time propose to speak. When it lies on the cornea its removal is very simple. The mode of procedure is:

*First.*—Secure the head of the patient as I have just instructed you.

*Second.*—Hold the eyelid against the ball, so as to fix it, with the left hand.

*Third.*—With the other, by means of a delicate blunt bit of steel in a handle, tilt the foreign body off the cornea.

Instead of using your fingers to steady the eyeball, you may find an ophthalmostat, invented by

Dr. Townsend, of New Haven, very useful. I show you the instrument. A very good one may be extemporized of wire, and this is the one Dr. Townsend first used. As you see, it is a simple ring, which presses on the eyelids and holds them apart and against the ball.

Do not think, however, that the spud is essential to the proper removal of this particle. A bit of wire, the head of a pin, or even a piece of wood will answer very well. A simple pushing motion against the foreign body will shove it into the conjunctival sac, from whence it can be readily removed, or it is lifted off entirely by the spud, and the operation is performed.

But suppose the foreign body has found its way into the epithelium and is actually lying there, what then? In the first place you must now have a good light. These particles are sometimes very small, and accurate examination is required in order to determine whether or not a foreign body is present, and exactly where it is situated. Sometimes the beginner is misled with regard to the appearance of the foreign body—especially if he has been told that one is there —by the black spots upon the iris, which are seen through the perfectly transparent cornea.

First, then, have a good light; and, next, determine there is a foreign body there, and locate the position. If the body is small, aid yourself with a double convex lens. Then take an ordinary spud, or cataract-needle, and proceed to scrape away the epithelium until you reach the foreign body and lift it out of its position. This operation will be somewhat painful, and in order that you have free access to the eyeball it may be necessary to use an instrument for holding the lids apart.

There are no exigencies equal to those encountered in a country practice, and the ready wit which comes from a first-class country physician is not infrequently essential for such an operation as this.

The epithelium of the cornea is sensitive; it is the painful part; it is well supplied with nerves, but after removing the foreign body you can scrape without causing much pain. But suppose it has gone further; suppose it has passed through the layers of the cornea, and you apprehend that it has either entered the anterior chamber, or that if you pick at it much it will drop in there; what shall be done then? Here you reach the boundary line between the general practitioner and the surgeon and the specialist. If you are a physician, and not a surgeon, you had better let these cases alone or get some one to assist you. If the foreign body is so far imbedded in the cornea as to be in danger of dropping into the anterior chamber, it is a matter with which only a good surgeon should meddle. How should he interfere? He may often remove the foreign body without entering the eyeball; but only by using the most delicately constructed forceps, handled with a most steady hand, and the manipulation should be done with the patient under ether. But suppose that the surgeon becomes convinced that he cannot remove it without entering the eyeball, how shall he then proceed? I think Dr. Agnew's method is the only one worthy of consideration, and that consists in passing a Beer's knife through the cornea behind the foreign body. The knife thus passed in forms a bed upon which you may safely work. But these are rare cases, and ordinarily no harm will come from waiting until the assistance of a surgeon can be secured. After the foreign body has been removed, the eye should be treated as if it had undergone a considerable operation.

In my prefatory remarks, I made allusion to the fact that perhaps you would be called upon to remove a wheat-beard from the eye of a farmer. That was no fancy picture. A farmer came to me, not many years ago, with an eye which had been inflamed for a number of months. It had been subjected faithfully to medical treatment, but it did not get well. The diagnosis of inflammation of the cornea had been made, and correctly; but it was a case of a foreign body in the cornea which had set up the inflammation, and that being removed, the disease which had existed for months disappeared within two or three days. Now imagine the feelings of my friend, who had seen the case several times, and had not examined the eye with reference to the presence of a foreign body. We learn a great deal by our mistakes, but we wish to learn as little as possible in that manner. We wish to make as few errors as possible. Do the best we can, we shall overlook much, but great care will cause us to avoid passing over those things which are obvious, and thus becoming superficial as well as general practitioners.

Therefore it is that I have spent so much time upon what may seem to be an unimportant subject, foreign bodies in the conjunctiva and on the cornea. It is not so important a subject with regard to sight as foreign bodies within the eyeball, but it is important in the sense that the knowledge which enables you to diagnosticate and remove them will afford your patients and you the greatest satisfaction, that of being relieved from and of having relieved great discomfort, or even distress.

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The Rapidity of Peripheral and Central Nerve-Impulses.—The rapidity of nerve-impulses has been quite accurately measured, and has long been well known. Hirsch's experiments are also quite familiar, in which he showed that a touch on the face was recognized by the brain, and responded to by a manual signal, in the seventh of a second; also that the speed of sense differed for different organs, the sense of hearing being responded to in the sixth of a second; while that of sight required only one-fifth second to be felt and signalled. In all these cases the distance traversed was about the same, so the inference is that images travel more slowly than sounds or touch. It has still remained, however, to show the portion of this interval taken up by the action of the brain. Professor Donders, by a very delicate apparatus, has demonstrated this to be about seventy-five thousandths of a second. Of the whole interval, forty thousandths are occupied in the simple act of recognition, and thirty-five thousandths for the act of willing a response. When two irritants were caused to operate on the same sense, one twenty-fifth of a second was required for the person to recognize which was the first; but a slightly longer interval was required to determine the priority in the case of the other senses. These results were obtained from a middle-aged man, but in youths the mental operations are somewhat quicker than in the adult. The average of many experiments proved that a simple thought occupies one-fortieth of a second.

The Sanitary Condition of the White House is not so bad as has been supposed. So says Col. G. E. Waring, who has recently made an examination of the place.

# Original Communications.

## SANITARY ADMINISTRATION AND THE HYPOTHESIS OF EVOLUTION.

By HENRY M. LYMAN, A.M., M.D.,

PROFESSOR OF PHYSIOLOGY AND OF DISEASES OF THE NERVOUS SYSTEM, RUSH MEDICAL COLLEGE, CHICAGO, ILL.

### Part II.

Dr. Chaillé enters a strenuous objection against the doctrine that there is such a thing as hereditary tolerance of disease consequent upon ancestral experience of disease. This objection he bases upon the statement that authors like Prichard, Elam, Ribot, Spencer, Darwin, and Holland have not been able to present any proofs of hereditary resistance to disease. But this is not surprising, since the subject is new to the minds of men, and little, if any, of the evidence in favor of this belief had been collected when those authors wrote. However, this forms a matter of little importance, since Dr. Chaillé virtually abandons the field in a confused little foot-note (p. 143), in which he admits that "survival of the fittest influences, of course, the results of continued exposure to disease." This is all that I have claimed. It is through the survival of the fittest among the component cells of the body that a sufferer from small-pox acquires his future tolerance of small-pox virus. It is the hereditary transmission of this quality to the immediate descendants of those surviving cells that sustains this tolerance during the lifetime of such an individual. As Ribot says, such "acquired modifications can certainly be transmitted" in a qualified degree to the offspring. If that offspring, again, be subjected to the same process of natural selection among the elements of its tissues, the further modification must proceed indefinitely. In this way the living body becomes adjusted to its environment. It is in this way that we may partly account for that slow, secular evolution of disease-types in the human race which has puzzled so many observers who have remarked the appearance, course, and disappearance of diseases during the progress of time.

As evidence of the consequences of such a process of natural selection producing hereditary tolerance of disease, I would again call attention to the history of small-pox as observed among the English and Americans. At the commencement of the present century the operation of natural selection had evolved a tolerance of small-pox represented by a mortality which seldom reached 20 per cent. of the cases. Copland gives the following figures from the statistics of the disease in Boston during the last century. During the epidemic of 1721 the ratio per cent. in *natural* small-pox, excluding all inoculated cases, was 14.8; in 1730 it was 13.5; in 1752 it was 9.7; in 1764 it was 18.5; in 1776 it was 9.5; in 1778, during the Revolutionary war, it was 34.4; in 1792 it again fell to 14.2. I have not access to English statistics for the same period, but as Boston was then to all intents and purposes an English settlement, it is hardly probable that there was any special difference between the experience of the two branches of the same race at that time.

If now we examine the statistics of mortality in the London small-pox hospitals during the present century (Cameron: *The Fortnightly Review*, p. 599, May, 1881), we learn that the mortality from small-pox in unvaccinated persons exhibited the following ratios: From 1836 to 1851 the ratio per cent. was 37.5; from 1852 to 1867, during which time great improvements in hospital accommodation were effected, the ratio was 35.7; from 1870 to 1879 the ratio was 44.6. This increasing mortality, characterized by a considerable increase in the hemorrhagic form of the disease, has taken place in spite of all the vaunted sanitary improvements of the present day. At the same time the protection afforded by vaccination has diminished. In London, where vaccination with human lymph has been so long and so faithfully performed, the registers of the small-pox hospitals (*loc. cit.*) indicate an increasing mortality from post-vaccinal small-pox. During the early years of the century the ratio of mortality in such cases, though presenting four or more good vaccine scars, was less than one per cent. From 1836 to 1851 it was 1.1 per cent; from 1852 to 1867 it was 2 per cent; from 1870 to 1879 it was 4.83 per cent.

Facts like these admit but one explanation. Our population is losing that power of resistance to small-pox which it had acquired through the operation of natural selection. As a consequence of that tendency to revert to original types which is characteristic of all living organisms, our people are gradually falling back into the condition which they occupied before their first experience of small-pox. What that condition was may be learned by a perusal of the history of the ages during which the dreaded disease first made its way from the East into Europe. Since then the same dreadful fatality has attended its first invasion of the American Indian tribes, the Africans, and the Pacific Islanders. It is usual to explain the terrible ravages which were created by small-pox among these people by saying that it is a disease which is very fatal to the dark-skinned races. But this is no explanation at all. Nor will it satisfy the conditions of the problem to say that the dark-skinned races are scorbutic, or scrofulous, or underfed, or generally feeble. Many of them rank among the most vigorous and athletic people in the world. Of course, no one claims any single cause for such a rate of mortality as that which marked the destruction of the American Indians. But one of the principal causes of the difference between these dark-skinned races and their European brethren lies in the fact that these last had been for a thousand years subjected to the operation of natural selection against small-pox before the process was commenced in America or Africa. The consequently differing degree of hereditary tolerance is approximately indicated by the statistical table of Boston (Copland, *loc. cit.*). When, in 1752, the ratio of mortality from small-pox was 9.2 per cent. among the whites, it was 14.2 among the colored inhabitants of the city, even though they were not all fresh from Africa. In this respect small-pox—a disease of the temperate zone—treats the tropical populations just as yellow fever—a tropical disease—treats the inhabitants of the extra-tropical world. But that this is not a mere question of climate is shown by the fact that yellow-fever is quite as fatal within the tropics as elsewhere, if carried beyond its endemic focus, while some of the most frightful examples of mortality from small-pox have been furnished by the Indians of Canada and of the Northern United States. That this mortality among the Indians was not a mere matter of complexion is shown by the fact that at the present time among their dark-skinned descendants, the Mexican Indians,

after nearly four hundred years of experience with natural small-pox, it is not considered a formidable disease. That it was not the result of bad hygiene is shown by the present experience of the same unhygienic people. Exact figures are wanting, but it is probable that they are now quite as tolerant of the disease as were the Bostonians during the last century.

The experience of mankind with syphilis illustrates all that I have claimed for the evolution of a hereditary tolerance through natural selection. All intelligent writers admit the accuracy of the general conclusions reached by Dr. Charles L. Dana in his essay on the "Benignity of Syphilis among Seamen." It is unnecessary to multiply illustrations upon this point.

Measles also furnish an instructive lesson in this connection. This disease is endemic in the temperate regions of Europe and America. Generations unnumbered have experienced the action of its poison, until a degree of tolerance has been evolved by the action of natural selection and heredity, which is represented by a death-rate which at the highest estimate seldom reaches seven or eight per cent. What the death-rate may have been in ancient times it is impossible to ascertain, because in those days measles was confounded with small-pox. If at that time more fatal than at present, such confusion is not at all surprising. Coming down to modern times, and excluding all unusually fatal local epidemics which have occurred under exceptional circumstances among people long habituated to the disease, we find that the invasion of a virgin population by measles is uniformly attended by a remarkable mortality. Dr. Chaillé seems inclined to doubt my statement that the Sandwich Islanders were decimated by measles in 1848. What will he say to the history of measles along the Amazon in 1749–50 ("Ziemssen's Cyclopædia," vol. ii., p. 114), when 30,000 people died out of the scanty Indian population? Or what shall be said of the mortality at the Fiji Islands, in 1877, when 20,000 perished out of a population of little more than 100,000 ("Ziemssen Supplement," p. 104)? It will not suffice to ascribe this mortality to the fact that these were dark-skinned people, for among the Japanese—a nearly white race—we are told (THE MEDICAL RECORD, p. 91, January 22, 1881,) that in 1861, after an immunity lasting for twenty-seven years, measles "swept from one end of the empire to the other in a few weeks," attacking all who had not previously experienced the disease, being nearly half of the 35,000,000 of inhabitants, and causing a mortality which may be inferred from the fact that in the city of Yedo there were 75,000 deaths out of a population of 1,500,000. Catastrophes like these attest the value not only of ancestral experience of measles, but of continuous adjustment to its poison. Even among people who, by reason of the severity of their ordinary struggle for existence, have become, like the Faroe Islanders, remarkably tolerant of all the ordinary causes that militate against vital existence, long immunity from measles greatly increases the mortality which accompanies a renewal of acquaintance with the disease. To say nothing of the fatality of disease under such circumstances, no one who has not witnessed such an epidemic can form any idea of the universal distress which obtains during its prevalence. Far better the diluted misery which attends the sporadic diffusion of the disease as we experience it upon our continents. The experience of the Japanese in this particular furnishes an admirable illustration of the dangers that attend a state of isolation. It is like balancing a pyramid upon its apex—the slightest disturbance is sufficient to accomplish the most frightful overthrow.*

The history of scarlet fever is also replete with instruction in this respect. Evidently we know nothing regarding its earlier prevalence in Europe, when, with measles, it was confounded either with small-pox or with the plague. The remarkably plastic character of its virus, by virtue of which its intensity is more easily varied than that of almost any other disease, renders it very difficult to assign an exact valuation to each of the various causes of the special malignancy or benignity of any particular epidemic. It is worthy of remark that formerly it was not considered a dangerous disease among the English. Sydenham ranked it as a benign disease. When it invades the tropics at the present time it is seldom fatal, and soon becomes extinct. But when it first appeared in this country, in 1735, its fatality was most alarming. Copland records the fact that "its progress was very slow, but very fatal. Villages were depopulated by it, and parents had to bewail the loss of all their children." In this record we see the disadvantages of isolation—long immunity, loss of resistance, great mortality. The same thing was illustrated at the Cape of Good Hope (*Medical Times and Gazette*, p. 535, November 20, 1858), when, after absence of scarlet fever for about twenty-five years, "out of the number of persons attacked, many of whom had arrived at adult age, nearly one-third died." Such a high rate of mortality after long immunity is not, however, invariably observed. At Stuttgart, for example ("Ziemssen's Cyclopædia," vol. ii., p. 292), "after 1830 scarlet fever disappeared entirely, and the first epidemic which at length appeared was in 1846, and there were no fatal cases." So variable is the intensity of the poison of scarlet fever that this favorable experience might easily be explained by the hypothesis of accidental causes, favoring attenuation of the virus, or producing increase of vital resistance among the people, without resorting to the supposition that this experience is opposed to what has been so often observed elsewhere. But, without a full history of such an epidemic, it cannot be allowed to count on either side of the question.

When we review the history of scarlet fever in any particular locality, we find that it usually presents a succession of benign epidemics, followed at length by a malignant epidemic. This again is succeeded usually by another series of benign epidemics, and so on indefinitely. Here, again, we may remark the operation of the law of natural selection and heredity. A succession of benign epidemics implies a growing class of individuals who have not experienced the disease in their own persons or in the persons of their immediate progenitors. Hence increased susceptibility to the disease, until finally the pyramid

* Dr. Chaillé is the author of the following amusing syllogism, which he has attempted to father upon me:

"The vaccine poison is attenuated small-pox poison, but instead of causing, it arrests a spreading disease, namely, small-pox—therefore, this attenuated poison should be as widely diffused as possible; *hence*, the measles poison, which is not attenuated and does not arrest, but in fact causes a spreading disease, namely, measles, should be as widely diffused as possible, and *thereby* be attenuated."

The evidence regarding the paternity of this monstrosity is too clear to permit my acceptance of the imputed relationship, even if I were as complaisant as Monsieur Gillenormand himself. What I did teach was this: Since we avoid the perils of unmitigated small-pox by experience of its mitigated form through vaccination, it would be well could we in like manner experience a mitigated form of measles and scarlet fever. But since we have not yet learned the secret of attenuating at will the virus of these diseases, we should do the next best thing—by permitting the natural spread of their exciting poisons, *already* attenuated by a long course of cultivation in the same race and locality, as they now exist among us, we should protect our population against their pandemic and malignant diffusion.

is fully turned upon its apex, and the next epidemic is attended with disaster.

In this connection the change in the severity of scarlet fever as observed in England is worthy of note. Sydenham regarded it as a benign disease—a circumstance not surprising when we recollect how severely the English had recently been tried by selection through the plague. During the earlier half of the present century Dr. Gregory (Copland) estimated its mortality in England at about six per cent. of the cases. But during the past thirty years the severity of the disease is said to have been considerably increased. English physicians (*e.g.*, Barrow, *Brit. Med. Journ.*, p. 256, Aug. 13, 1881) dimly recognize this fact, without intelligent comprehension of its cause. According to the doctrines of the sanitarians, a better result should follow the great sanitary efforts which have been put forth in that country during the past forty years. The time has come, in fact, when it is a matter for serious inquiry whether the anxious endeavors of the English to "stamp out" scarlet fever are not to be reckoned among the causes of its increasing aggravation.

"Naturam expellas furca, tamen usque recurret."

From the evidence, of which these few specimens have been thus briefly presented, we may learn that certain ordinarily benign diseases can very easily be made to assume great malignity. Frequent exposure, and the hereditary tolerance acquired by natural selection, constitute important safeguards against such malignity. Isolation and the consequent unimpeded operation of the tendency to revert toward original types of existence, reduce and finally destroy all the security acquired by ancestral experience, leaving the victim of isolation in danger of disaster at any moment when a relaxation of vigilance may permit unwitting exposure to the causes of disease. We become capable of resisting heat and cold by frequent exposure to those conditions, and thus we acquire health—a possession which is cheaply earned at the expense of a sunburned face, or even a frosted ear. The way to become tolerant of diseases whose causes we cannot yet remove is through exposure to their action. Consequently, the proper course for the active sanitarian lies not in the attempt to combat all spreading diseases by the same narrow method. He should study the processes of nature, and should seek to enlist their aid in his behalf. He will then find that each disease requires its own peculiar management, and that this should vary in different localities and at different times. We do not eradicate malaria by dosing the fever patient with quinine, but by effectual drainage of the soil. In like manner cholera is not suppressed in India or in Ceylon by sanitary inspection or by household quarantine, but it disappears in the presence of irrigation and an abundance of food (*Nature*, p. 511, October 11, 1877).

Typhoid fever and typhus are seldom arrested by isolation and by hospitalization of the sick, but they soon cease under the influence of good diet, pure water, and fresh air. Small-pox could not be restrained by the most stringent quarantines, but as soon as we had learned how to attenuate its virus and to experience the disease in a mitigated form, it was deprived of all its terrors. Just so with the kindred diseases, scarlet fever and measles. They cannot be eradicated from their natural habitat by disinfection and isolation. If we ever learn the secret of their origin, we may possibly learn the art of preventing their generation. Or, if we should ever acquire the secret of properly attenuating the virus of these diseases, we would then occupy the same relation toward them which we now hold regarding small-pox. Till then the safest course is to allow their widest natural prevalence. If we endeavor to secure artificial protection by isolation, etc., we shall inevitably sacrifice the vantage-ground of heredity which we now possess, soon reaching something like the Japanese type of constitution, and rendering ourselves liable to similar disasters. If any given community occupies a position of complete seclusion, like that of the Pitcairn Islanders, stringent quarantine is a very proper measure for their adoption; but if we dwell in the world of living men, it is much better to fit ourselves for a fearless existence in that world. It is far better that one should fall here and another there in the passage through the training-time of youth, rather than that all should be compelled to go timorously through life, dreading an encounter with measles, or scarlet fever, or whooping-cough, at an age when least able to sacrifice the time or to incur the danger of such an experience. The proper work of sanitary administration, in countries where such diseases are endemic, should consist, not in the endeavor to make people believe that the natural subsidence of a periodical epidemic is due to official vigilance, or that its natural evolution is caused by the doctors "who don't report their cases," but rather in the effort to relieve the sufferings of those who are unable to help themselves. Provide hospitals for the victims of small-pox and scarlet fever if you will, and use them for the *relief* of people who cannot be properly cared for at home; but do not defeat the object for which they should exist by making them a terror to the community, as we have done in Chicago.

That our practical sanitarians have failed to reach these scientific conclusions is owing to the fact that, instead of studying the natural history of virulent diseases, so as to adapt their means toward the production of the largest benefit to mankind, they have simply adopted as their guides to action the uninstructed instincts of individual selfishness. They have forgotten that individual profit is often incompatible with the general welfare—that present luxury too often means future misery. Every one shrinks from death; but, under present conditions, it is better for the race and for the world that all in turn should die. In like manner it seems hard to suffer with measles and scarlet fever; but, in a country where they are endemic, and where there is every reason to believe that they continually originate, it is a worse thing for the community to become artificially filled with people who are liable at any hour to be prostrated by these diseases. The present behavior of our sanitary officials in this matter is no more worthy of respect than an attempt to abolish death without first discovering the secret of immortality. As the wise man makes no effort to live on earth forever, but only seeks, by obeying the laws of nature, to postpone the appointed day, so, by submission to the processes through which nature renders the body tolerant of contagion, we shall accomplish far better results for mankind than can ever be effected by "the hunting and extermination of various species of hypothetical pathological bacteria, even though it were actually possible to catch and exterminate legions." This manly utterance by Dr. Beale expresses the truly scientific opinion which we should everywhere maintain in opposition to the miserable sentimentalism about "domestic pestilences" with which our unscientific sanitarians are laboring to indoctrinate an unsuspecting public.

## CLINICAL STUDIES OF INEBRIETY.

By T. D. CROTHERS, M.D.,
HARTFORD, CONN.

The following cases are presented as illustrating other causes prominent in producing inebriety, and which may properly be termed conditions of exhaustion. Like the gathering of many little rivulets at one point into a stream, these cases indicate the juncture of a long train of events and conditions combining from some special cause into inebriety. Back of this there is always a weakness or defect of nerve-element, an absence of reserve power to adapt itself to the varied conditions of the organism or surroundings, which may be either inherited or acquired. This, in most cases, will appear from a careful study into the history and character of the patient; also, the development of inebriety may be predicted with much certainty in the future from a knowledge of the defective organism. These cases dated from profound commotion of the nerve-centres, where evidently conditions of exhaustion were present, which were still further increased and intensified by alcohol. In my opinion, inebriety dating from some exhaustive demand on the functional or organic activities of the body in persons who have previously suffered from nutritive excesses, or have even been moderate drinkers, passes rapidly into chronic stages, from which it is difficult to cure. The practical inference is, no form of alcohol should be given medicinally in such cases.

Case I.—*Inebriety from Shock, from Loss of Fortune, and Nerve Depression, etc.*—B——, family history obscure, was early put out to work in the country, and suffered from hardships and poverty. At twenty he came to the city as a clerk, with an intense ambition to be rich. Twenty-five years of close economy, strictly temperate living, and hard work brought with it a fortune; but with it was developed a narrow, selfish egotism and a grasping ambition to acquire more money. With limited culture, and general suspicion of every one, and no faith in humanity, his life was a perpetual struggle on the lowest plane of activity. A large family shared with him this same spirit, and beyond the church and an occasional ostentatious display of equipage at some watering-place for a few days, they lived a quiet, secluded life. At fifty he was a hale, hearty, temperate man, full of activity, and working regularly every day. He was regular in all his habits, rarely using any stimulants except wine, then never at home, but only when urged by some friend. By a sudden combination of events he became bankrupt, and when he realized the situation he purchased a case of brandy, and went home. For two weeks he remained in bed, drinking all the time, refusing to see any one, but giving some general directions to his son. Then he recovered and went out, displaying unusual energy and skill. A week later he came home intoxicated, and could give no reason, but seemed to regret the cost more than any other thing. From this time he became intoxicated two or three times a week, coming home after dark, and complaining bitterly of the expense. After a year he resumed business, and was prosperous; it was noticed that he drank less often as his fortune improved, and was seldom intoxicated.

Symptoms of failure of the nervous system, marked by trembling, sleeplessness, and inability to concentrate his mind on any subject more than a moment at a time. For this a consulting physician ordered rich diet with wines and whiskey. He drank harder than ever, and was intoxicated every week, became suspicious of his family, lost all sense of truth and honesty in his business, gave worthless checks, disguised his signature, then denied it, and caused infinite trouble and annoyance to his firm. All his previous habits of life changed, and at last his business was taken away from him by his sons, and he manifested the most extraordinary duplicity of thought and action. During the next two years all his energies were concentrated to procure spirits by every species of fraudulent device and strategy. Then he came under my care, with all the usual delusions of persecution and capacity to stop drinking. He was very much broken down in mind, and required incessant watching, was irritable and suspicious, and had no other thought but alcohol and how to procure it. After two months' residence in the institution, he suffered from dreams of drink, which came on like a paroxysm, during which he would walk about, staggering, and talking like a drunken man, then fall asleep for many hours, and awake confident that some one had been giving him spirits. These attacks came on once or twice a week, and he wrote home that the officers of the asylum gave him spirits for the purpose of keeping him. His son came on to visit him, and during the night, after another dream, paroxysm took place, in which every symptom of complete intoxication was present. In the morning the father asserted that he had been given spirits, but just how was not clear to him, and the son believed him, and the result was that he went home. These paroxysms disappeared when he could procure spirits. Soon afterward he found opium a substitute for alcohol, and died within a year from an overdose. The family still believe that he procured spirits or had them given him at the institution for the purpose of keeping him. The shock to the nerve-centres from loss of fortune and profound depression following, developed inebriety at once, simply because nature demanded relief, and found in alcohol a temporary sedative. The withdrawal of spirits at the institution, was followed after a time by paroxysmal dreams of drinking, a not uncommon event in chronic cases, especially after the first two weeks of treatment. In this case they were unusual both in the time of appearance and severity of attack. What special determining causes brought on inebriety cannot be known at present, but I am assured that future studies will reveal these, and all the conditions which enter into this disease.

Case II.—*Inebriety from Shock of Fear—Recovery—Relapse.*—B——, a merchant, with a marked family history of consumption and rheumatism, was a strictly temperate man at thirty-five, in good health, with regular habits, pleasant social relations, and prospering in business. From childhood he had manifested an intense fear of lightning and thunder, being obliged to go to bed prostrated during a long-continued storm. When he grew up this fear increased into a short paroxysm of fever when a severe storm came up, sometimes lasting a day or more after. While returing from New York the express train jumped the track, and ran along over the ties at high speed for some minutes. It was in the edge of the evening, and the lamps were shivered and the window-lights broken. The noise and suspense, with the jolting of the car, caused an intense fear and agony of mind for several minutes. When the car stopped he was found to have lost all power

of motion, and had to be lifted out and carried to a hotel near by. He could not speak, was very pale, and seemed in a fainting fit. At the hotel he was given large quantities of alcohol, and recovered his power of speech. The third day he was carried home suffering from intense exhaustion, and was unable to rise from bed for many weeks. His appetite failed him, and he was unable to sleep. Tonics and stimulants were freely given. At night a slight fever, with delirium, came on, which lasted ten days or more before it was broken up. He recovered slowly, but continued the use of alcohol regularly. The next year he drank more, and began to neglect his business, spending most of the time at a hotel, boasting what he could do. He complained of undefinable pains and aches, which he called malarious, and used alcohol to relieve them, being intoxicated from one to four times every month. Symptoms of persecution appeared; he was intensely egotistical and impulsive. He never seemed to realize that he was drinking to excess, and had no clear convictions of his case or danger. Rheumatism and dyspepsia followed each other alternately; sometimes one would be prominent, then the other. At one time he would be deeply religious, then be indifferent about all religious matters. He would be seized with attacks of extreme restlessness and agitation, in which he would appear childish and feeble. He was brought to the asylum, and remained three months, going away improved. He remained at home for the year following, doing little, and was seemingly in good health, then, from some unknown cause, he relapsed, and is now a chronic case. The direct cause here was the profound excitement from the fear of accident on the railroad, followed by functional paralysis, ending in inebriety, excited by the use of alcohol. He evidently had a nervous organization that was defective, manifest in the morbid fear of lightning and the prostration which followed. The persistent use of alcohol as a stimulant after any powerful shock to the nervous system is attended with more or less danger of inebriety.

Case III.—*Inebriety from the Excitement and Exhaustion incident on Change of Life and Vocation.*—H——, father died from some obscure brain trouble, grandmother on mother's side died insane. Became a machinist, and at forty-one years of age was part owner of a large mill, and living a very regular temperate life. He was not an abstainer, but used wine and beer occasionally without any taste for it. He made an invention at this time which brought him an immense income, and was elected by accident to Congress. His quiet retiring manners and reputed wealth drew about him a large circle of obsequious flatterers. He moved into an elegant house, and gathered about him luxuries, and lived a life of excitement and change. After his election the second time he began to keep late hours, give suppers with wine, and keep fast society. He neglected ordinary exercise, and was ambitious for political preferment, then he began to use brandy, and a year later he was frequently intoxicated, growing worse rapidly, until he was seized with an epileptic convulsion; was put under the care of a physician in a private hospital. Soon after his fortune vanished and his friends also, and he went to work again in the same mill. He continued to use spirits and two years after was brought to my care. He was very much prostrated physically, and his mind greatly disturbed with delusions of fear and trouble ahead of him. He was extremely irritable and wanted to get away, and manifested much cunning in efforts to procure spirits. His improvement was slow, but after five months' treatment he went home, and soon after relapsed. He went to Boston under Dr. Day for two months, coming back much better. He is now at work, occasionally using alcohol to excess, and at times manifesting the most lively fear of using stimulants again, attending meetings, and urging others to sign the pledge.

Here was a long preliminary stage of occasional drinking, up to the time of sudden elevation to wealth and prominence. The marked change of circumstances and living, with the excesses which followed, particularly of the nutrient organs, want of exercise, and proper sleep, were the very conditions from which inebriety would be naturally developed. Other diseases would have followed these changes if inebriety had not appeared. I have noted cases of this kind where inebriety burst out with much intensity, then died away, or was followed by Bright's disease, or acute rheumatism; while these diseases were active the desire for alcohol diminished, the patient either taking nothing or a small quantity at long intervals. Sudden elevation to wealth, or total change of living and circumstances at or after middle life, is followed by a certain strain of the nervous system to accommodate itself to the new conditions. If at this time there is any defect of the nervous system, either inherited or acquired, the exhaustion will be greater and the door open for many diseases. In the excitement incident to any great changes of living alcohol will always be found the most available means of relief, hence inebriety will be encouraged from the start.

Case IV.—*Inebriety, from Grief and General Mental Depression—Recovery—Relapse and Death.*—X——, a lawyer in large practice and occupying a very prominent position, lost his only son from an accident, and soon after began to use alcohol to excess. Within six months from the time of the first use of alcohol he was taken to the insane asylum, and was discharged as cured in six weeks. Returning, he began to use alcohol again, and finally went to the South, traveling to different health resorts, getting no benefit, but drinking harder than ever. I was consulted and found the following history: His parents died, when he was a child, of consumption; one brother is insane, from exposure and injury in the army, the other is a nervous invalid, broken down in mind and body. This patient while a young man was extremely fond of the pleasures of the table, and smoked very freely for many years, then gave it up and seemed to be reformed and very temperate. At thirty-one years he joined the temperance ranks and was an ultra prohibitionist, but he lived on the richest food and was impulsive in his tastes. He was generally neglectful of ordinary sanitary rules, such as regularity in eating and sleeping. At forty-four his son was killed by an accident, and the effect on his mind was so intense that he went to bed for twenty-four hours and seemed in a kind of stupor, then roused himself and called for brandy, drinking freely; resumed his business, using stimulants freely many times a day. Within a week he was intoxicated, and from this time was nearly always under the influence of alcohol. I advised a certain course of tonics, residence in the country, perfect quiet, and absolute withdrawal from alcohol, under the care of physicians. This failed after a few weeks, and he went under Dr. Mason's care, at Fort Hamilton. Six months of treatment ended in recovery, and resumption of business as before. Two years after, he relapsed after a protracted pe-

riod of severe labor, and gave up everything—drinking for two weeks severely; then signed the pledge and began to lecture on temperance; later he relapsed and died of acute pneumonia within a year. The shock from grief overwhelming the nerve centres developed inebriety, because there was already a nervous diathesis and predisposition, which was exhibited during early manhood in nutrient excesses. I append notes of five cases, as illustrating more fully these obscure causatious cases, whose general history differs but little from those described after the onset of inebriety.

Case V.—Born of insane and epileptic parents. Was eccentric and fanatical. Built up a fortune, and was a man of great force of character, and intensely egotistical. Was a gross eater, but was almost insanely opposed to alcohol in any form. When fifty-six years of age was thrown from his carriage and made unconscious for a short time, but apparently sustained no marked injury. Suddenly he began to use alcohol, and was a confirmed inebriate for the next six months, up to death, which followed from some obscure heart disease.

Case VI.—Inherited a marked neurotic tendency; was exceedingly temperate up to the time of marriage at thirty-six years of age. A bookkeeper, intelligent and respected. Soon after marriage he became an inebriate, and is now a "repeater," going from one asylum to another, very much broken down in health and a confirmed case. Sexual excess at marriage was undoubtedly the exciting cause; he is always worse at home in the company of his wife. He would have impulsive cravings for spirits after a short visit from his wife at the asylum, and at no other time would this be noticed, confirming the theory of the exciting cause.

Case VII.—Son of a clergyman, with a marked history of consumption and rheumatism for generations back. At twenty-two, in college, from disappointment and loss of class honors, he drank to intoxication, and continued until expelled from college. He is now a hopeless incurable.

Case VIII.—A physician with an obscure family history, in good practice and prosperous. Suffered intense mortification from a suit for malpractice which was decided against him. Moved away discouraged, and began to drink spirits, becoming an inebriate very soon. Was egotistical, full of delusions, and is now an inmate of the State prison, for forgery committed while intoxicated.

Case IX.—A strong, hearty workman on a farm, with no family history of nerve disorder, began to use alcohol to intoxication after an attack of colic from indigestion and over-work. He had used ice-water freely during the harvest season past, and had eaten to excess. He became a paroxysmal inebriate, having distinct periods of sobriety, followed by long seasons of excess. He has been twice under treatment at different institutions, and relapsed each time. Before the attack of colic he had not used any form of spirits.

Case X.—A lawyer, with a history of insanity and inebriety back in several members of the family; was temperate and healthy up to forty-two years of age. At the close of the election campaign of 1873, in which he had participated, his joy was so great that he drank wine to intoxication at a private dinner given by the successful candidate; from this time he went down rapidly, drinking every week, and was soon a chronic case.

These cases are sufficient to indicate the necessity of taking wider views of the obscure causes which are at work in producing inebriety. They also point out some of the degenerate conditions of nerve force and energy which are at the foundation of all inebriety. The practitioner should ever bear in mind the fact that exhaustion of the nerve-centres is a condition which can only be understood from close observation and study of the case, with a thorough acquaintance of all surroundings and natural history of the patient; that physical exhaustion and overwork, particularly excesses of any kind, opens the door and invites disease, of which inebriety may be the most natural sequence.

## WEAK SPOTS IN OUR KNOWLEDGE OF MATERIA MEDICA.*

By H. G. PIFFARD, M.D.,
NEW YORK.

Gentlemen: It is a self-evident proposition that the carpenter should be familiar with his tools if good work is to be expected at his hands. So we, as physicians, should be familiar with ours, and there are none more frequently employed by us than drugs. It is for the study of these that we are associated, in the hope that by earnestly devoting ourselves to their investigation we may be enabled the better to understand their modes of action and several capabilities, to the end that disease may be the more safely, quickly, and pleasantly removed.

It may not be inappropriate, then, to consider some of the special lines of study that may profitably engage our attention in connection with the general subject that unites us.

Naturally, the first points that strike us in connection with any drug that we may encounter are the qualities or properties that it possesses, as revealed to us through the medium of our senses, unaided by chemical or microscopical manipulation—in other words, its ordinary physical properties. Here sight, taste, touch, and smell each play their part in enabling us to identify the different bodies, and, what is of equal importance, to form in many instances an opinion as to the quality of the substance under consideration, to judge in a measure whether it has been injured by adulteration, has become deteriorated through age or improper methods of preservation, or has been impaired by unsuitable pharmaceutical manipulation.

The cultivation of our special senses, so as to enable us the better to identify and to judge of the qualities of drugs may, I think, profitably engage a portion of our time. Chemistry and the microscope will carry us still deeper in this direction, and are, of course, not to be overlooked.

In possession of a drug, we are next led to inquire as to its action. In what way does it affect the human system; what phenomena will follow its introduction into the body; what disturbances of function or structure will it cause; how soon will these become evident; in what order will they arise; and when will they terminate and the normal condition of the body be resumed? These questions require answers. Let us, for example, examine the action of one of the more familiar articles of the materia medica, namely, *sulphate of magnesia*. If given in full doses to a person in health, and accustomed to daily rectal evacuation, it will, within the first twenty-four hours, greatly increase the number of evacuations, but following this there will be a period during which the number of evacua-

* Abstract of an address delivered at the first meeting of the New York Materia Medica Society.

tions will be fewer than normal. In other words, we shall have an artificial diarrhœa, followed by an artificial constipation. These phenomena—the diarrhœa and the constipation—are both the effects, or rather the consequences, of the drug, for neither would have occurred had the drug not been given; but what strikes us particularly, is the fact that quite opposite conditions have been induced, the one following the other. To these opposite conditions, the terms primary and secondary action, early and remote effects, or action and reaction, have been given. The terms most commonly employed are the ones first given above, and we are reasonably familiar with these actions in connection with a limited number of drugs, chiefly those which are usually given in a single large dose. The secondary action or remote effects of those drugs that are given in repeated doses, however, well merit further investigation.

Looking further, we encounter the dogmatic statement of Sydenham: "*Opium sedat;*" to which Brown vehemently replied, "*Meherele opium non sedat, opium excitat.*" These propositions, so diametrically opposed, are yet both true, as universal experience attests. Either of these contrary effects may be obtained almost at will; it is simply a question of dose. With a small dose, say five or ten milligrammes of opium, we may expect excitement, while with a larger one of fifty or a hundred milligrammes we shall have sedation. This apparently opposite action of large and small doses is familiar to us now in quite a number of drugs, but how extensively these phenomena prevail is a matter that merits, and I think will fully repay, further study.

Another question worthy of examination is the modifying effect of chemical combination on active drugs. Do we get a true hybrid effect, or does the action of one or the other component parts appear to prevail in a given instance? If we take the salts of morphia, of quinia, of pilocarpin, or of mercury, we can promptly reply that the base preserves its own characteristic action, apparently little modified by the acid that is combined with it. On the other hand, if we take the compounds of iodine or of bromine, we find that the bases are the least important factors, the first-named bodies seeming to preserve their identity in great measure throughout the entire line of saline combinations. Which drugs we have in combination, like morphia, etc., which like iodine and bromine, and which again, if there be any such, that exhibit a true and equal hybridity of effect, if such an expression may be allowed, are questions that await settlement.

The effects of the mixture of two or more drugs is likewise of interest and of importance, more especially in a therapeutic relation. Under what circumstances will the components of a mixture aid each other in accomplishing the end sought—the restoration of health; and under what circumstances will they conflict and result in a mixture that may be almost therapeutically inert? We all know, as a matter of experience, that there are phases and conditions of syphilis in which a mixture of mercury and the iodide of potassium will prove more efficient than either given alone; and we know, equally well, that there are other phases of this disease in which one or the other of these drugs proves more useful than their mixture. Let us, then, seek to determine the effects of mixture as regards other drugs and other diseases.

Still another interesting field invites exploration, to wit: The specific relationship of particular drugs to particular organs of the body. Thus we all recognize the fact that mercury and pilocarpus exert a special influence on the salivary glands; that arsenic and pilocarpus exert a special influence upon the skin; that cantharides affects the urinary tract; and that belladonna affects the eye. Let us extend our inquiries in this direction, to the end that we may obtain a more precise knowledge of the organic or local sphere of action of at least the more potent and important of the articles of the materia medica.

The relationship of drug-action to acute pathological processes—for instance, as aconite to inflammatory congestion, quinia to inflammatory exudation—needs further study. Have we any drugs that exert direct effect on the acute fatty alterations of the liver that we meet with in yellow fever and in phosphorus-poisoning? Unfortunately we have not, at least so far as is known to me.

Again, the relationship of drug-action to chronic pathological processes invites us. We know something of the effects of mercury on syphilis, of iodine on struma, but have we any drug that will efficiently control that too prevalent condition or diathesis of suboxidation that doubtless lies at the root of so many gouty, rheumatic and other ills. Candidly, we must confess that such a drug is yet to be found, and if two thousand years have failed to reveal it to us by chance, our main hope for its discovery in the future must depend on earnest investigation.

The influence of drugs in the relief of particular symptoms, as pyrexia, pain, etc., should engage us. As regards the former of these, we know the effects of the cold douche, of the so-called apyretics, etc. As regards the latter, we know in a general way that opium is capable of controlling pain, wherever located, but that it does so by benumbing, as it were, the entire system. We also know that aconite and gelsemium are capable of relieving certain trifacial pains, but unfortunately we do not know of any drug that will specifically control the agonizing torture of a nephritic or biliary colic, without at the same time obtunding the general sensibility of the rest of the economy.

In these few lines, I have, as you will perceive, endeavored to indicate some of the weak spots in our knowledge of materia medica, and I will now close by expressing the hope and expectation that if each will earnestly work in some of the lines that are opened to us, it may not be many years before we shall be satisfied that our labor has not been entirely in vain.

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TAKING ISSUE WITH A HEALTH BOARD.—The Board of Health for Brooklyn is prosecuting Dr. Paul H. Kretzschmar for an alleged violation of the sanitary code, which provides that "every physician shall report to the Sanitary Bureau, in writing, all cases of contagious diseases which he has prescribed for or attended." About a week ago a case of scarlet fever occurred among Dr. Kretzschmar's patients. He informed a member of the Board of Health personally of this, but he did not send a formal notification as required by the rules. Dr. Kretzschmar holds that the rule requiring that the notice should be sent on a postal card is not binding, and that it is likely to result in the spreading of contagious diseases. He believes that all contagious diseases should be reported personally to the members of the Board of Health. Many of the leading physicians of Brooklyn take this view, and Dr. Kretzschmar's case will be a test one. Dr. Kretzschmar is connected with the Long Island Hospital.

# Reports of Hospitals.

## NEW YORK HOSPITAL, N. Y.

## A CASE OF SECONDARY SYPHILIS.

A Clinical Lecture.

By W. H. DRAPER, M.D.,

ATTENDING PHYSICIAN.

I show you to-day, gentlemen, a case of secondary syphilis, which presents some points of interest.

The patient's age is twenty-four. He is a native of the United States, single, and a groom. In November he had a chancre, which appeared a week after connection. It was treated locally only, with bluestone. He was well until four or five weeks ago, seven weeks after appearance of chancre, when he began to suffer from frontal headache, lachrymation, and lassitude. After a complete intermission of a few days, the symptoms mentioned returned with greater intensity. The frontal headache lasted day and night, was very pronounced, and attended with lachrymation. His head was sore to pressure. Five weeks ago he experienced pain in the shoulder and partial disability of the arm. A week ago an eruption appeared upon the trunk and upper extremities. On admission, his respiration was 20, pulse 84, temperature 98.4°. Patient is well nourished, and has no œdema. The posterior cervical, epitrochlear, and inguinal glands are hard. On the forehead and neck there are reddish papules. There is slight desquamation. These papules are discreet, elevated, and surrounded by normal tissue. He has no alopecia. The U. S. solution of morphia was given, and the patient put under the usual treatment. Such is the history of the case.

A week after connection, this man noticed what he describes as a single sore upon the frænum. We distinguish between the unique infecting sore and the chancroid. The latter is apt to be multiple, and appears a short time after intercourse; the chancre is unique, and appears one to three weeks subsequent to impure contact.

This man has swellings, not only in the glands in the immediate neighborhood of the sore, but also in those more distant: in the posterior cervical chain, in the chain running down the arm, especially the epitrochlear, and in the glands behind the ear, near the mastoid process.

The unique sore occurring one to three weeks after connection, and the coincident adenitis, are signs of constitutional syphilis, just as much as the pustule of small-pox is a sign of small-pox.

Another point in which the history is classical, is the time at which the secondary symptoms occurred. We call this eruption a secondary manifestation, simply from its relation to the primary sore, as it is termed; but the chancre and the adenitis are as much signs of constitutional disease as the former. This eruption appeared seven weeks after the primary lesion. It occurred in the localities in which it is most likely to be seen, on the anterior aspect of the body and the inner aspect of the extremities. Often it is not observed, because it is most prominently developed on those parts covered by clothing. Where habits of cleanliness are not practised, it may escape detection. Too much stress should not be laid upon statements as to the absence of eruption in the early period. Though it may be extremely sparse, yet, in the majority of cases, it does occur. This man has a very general one, so manifest, and so like measles, that it might readily be mistaken for that disease. He has a copious eruption on the face, trunk, extremities, and hands, which is as extensive as that of rubeola; it presents a similar appearance, has a vivid color, and though it does not present a crescentic grouping, yet, to the superficial observer, it might be mistaken for the exanthema mentioned. What makes the mistake more easy, is the fact that we have much lachrymation in this case. If you pass your finger over the eruption, you can feel the papules.

The color is not so marked in the early as in the later stages, but, recollect, color is by no means a safe guide. In many cases of non-specific eruption, provided the patient is cachectic, you may get a brown stain suggestive of syphilis. This is especially true of erythematous eruptions on the arms and legs, where the circulation is feeble.

During this period, you may observe in the throat a development of mucous patches. These are more abundant the less copious the tegumentary eruption is. In this you see a striking analogy between syphilis and the exanthematous fevers, for in these, also, the lesions of the mucous membranes are more intense the milder the eruption upon the skin.

The next point to which I wish to direct your attention is the neuralgic element. This man began to suffer from pain along the distribution of the fifth nerve. This symptom preceded, as it generally does, the development of the eruption. With these pains, which may affect a single branch of a nerve, or invade more or less all of its rami, there is apt to be pain in the joints and bones, and great lassitude. They are the symptoms of fever. Such pains are often very severe, and commonly vary according to the degree of febrile action in intensity. They differ from those which occur later with periosteal inflammation, and tubercular inflammation of the skin; they are merely functional, and associated with the syphilitic fever.

This case illustrates very well the theory propounded by Hutchinson, that syphilis is an exanthematous fever analogous to small-pox, scarlatina, and measles. It has a period of incubation, a period of eruption, and sequelæ. These are certainly distinctly made out in many cases of syphilis. The period of eruption, corresponding to that of the exanthematous diseases, is clear in this instance. The analogy does not hold good when we come to compare the length of time during which the stages of incubation and eruption last, but so far as the stages themselves are concerned, it is striking. The period of incubation, between connection and the appearance of the eruption, is generally six to eight weeks. The period of the syphilitic exanthema is extremely irregular. The eruption may last from three to six weeks, but unfortunately it has a tendency to recur, and may thus extend over a year or eighteen months, with frequent repetitions upon the skin and mucous membranes. Then, at any time during the first year, we may observe the consequences manifested by destruction of tissue, the development of gummy tumors, periosteal inflammation, and tubercular inflammation of the skin. These are the sequelæ analogous to those which follow, in a much shorter period, from the exanthematous fevers. This hypothesis in regard to syphilis is perhaps not practically useful, but if you carry it out, you can see how strikingly syphilis corresponds to some of the eruptive fevers.

The ordinary eruptive fevers vary in severity in

different patients, and different persons have varying susceptibility to their influence. Some acquire small-pox, scarlet fever, or measles upon the least exposure, while others are not affected. Some have very mild, others very severe attacks. With the majority of patients, measles, small-pox, and scarlet fever are comparatively mild diseases, producing no serious harm, but in others these exanthemata may produce disastrous results. The same, in respect to promiscuous sexual intercourse, is true of syphilis. I have seen men who have led the most reckless lives, and yet have never contracted syphilis. Many have the primary sore and the early eruption, and are no worse after these than they would be after measles. Many, on the other hand, are so susceptible to the poison of this disease, that they pass through all its stages, and become the victims of its most profound lesions within a period of eighteen months.

These facts in regard to the varying degree of severity of syphilis, it is important to bear in mind. Many cases of syphilis, supposed to be cured by vigorous treatment—mercury in the early stages, and mercury and the iodide of potassium in the later—would probably have got well without any treatment at all. The truth is that these two remedies unquestionably have a great control over syphilitic lesions as they manifest themselves. That they eradicate the disease is something which I do not think can be predicated of them. We can control the malady, we can diminish the tendency to a recurrence of the lesion, we can keep the patient tolerably free from annoyance during the secondary stage, but, having done this, we cannot say that we have protected him against the more serious consequences. When these more serious consequences appear, however, we can control them by the iodide of potassium, or by this remedy in combination with mercury. There is nothing in the whole range of therapeutics which exhibits such certain and such satisfactory results as the so-called specific treatment of syphilitic lesions. At the same time, we are not justified in assuming that this specific treatment will eradicate the *frus et origo mali*. It will control and cure the lesions, but it cannot insure against the possibility of recurrence.

You have seen in this patient a good illustration of the evolution of the malady in the first stages. It is quite a classical case.

Can the severity of the disease be prognosticated from the appearance of the eruption? It is said by good authority, that when there is a copious erythema within three months after the sore, the prognosis is better than when the eruption is sparse and papular, rather than erythematous. In this instance we have a good illustration of what is known as a syphilitic erythema, though it is to a slight extent papular. So far as the eruption is concerned, we might say that the chances of his not having serious sequelæ within a year are very good. This is a dangerous sort of a prognosis to make, but still, cases like this, where there is but little papular element, are considered favorable.

It might be asked whether the occurrence of so much pain as he has suffered would not render the prognosis more serious. I think not. I regard the occurrence of neuralgia in syphilitic fever as purely accidental. If this patient were suffering from small-pox or scarlet fever, pain would probably be a more prominent symptom than it is commonly in those diseases.

This man has been put upon the biniodide of mercury. There is considerable difference of opinion as to the best method of treatment of syphilis in its early stages, that is to say, in regard to the best preparation of mercury; about the drug itself, there is no question. The late Dr. Bumstead preferred blue pill. He gave gr. iij. t. i. d. until slight salivation was produced. The protiodide has been a favorite in this country, because it was a favorite of Ricord's. The bichloride has been administered by the mouth, and hypodermically. In the latter way it produces its effects very promptly. I have not had much experience in this method, but Dr. R. W. Taylor, who gives gr. $\frac{1}{12}$ to $\frac{1}{8}$, once a day, finds that a marked effect is produced upon the fever and the eruption in a few days. This patient has been put upon the biniodide, which is rather more marked in its effects than the bichloride. Another very good method is to give small doses of calomel, gr. $\frac{1}{15}$, every hour. This will sometimes produce salivation within twenty-four hours. As soon as ptyalism is produced, the good effects of the drug are manifested in the relief of the symptoms. After salivation has been effected, caution is necessary. The remedy should be exhibited in doses sufficient to keep up merely a moderate ptyalism. We were also giving this man opium, to relieve his pain.

This patient's primary lesion healed in the course of fourteen days, under bluestone treatment. This is the case in most infectious sores.

The distinction between the unique chancre and the multiple non-infecting sore, is one upon which you can generally rely, though not absolutely. I have seen sores which were supposed to be chancroids turn out to be chancres. I have a suspicion of all sores appearing in one to three weeks after connection; whether they be single or multiple, soft or hard, I think they are infectious. Sores appearing immediately after connection are chancroids. Hardness, like the swelling of the glands, is a symptom of infection.

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Cure for Hydrophobia.—An editorial writer in the *N. Y. Times* discourses facetiously regarding the following method of "curing" hydrophobia: "Dr. V. Galtier, a veterinary surgeon, of Lyons, France, has lately made a most remarkable and valuable discovery in regard to rabies. It is well known that the virus by which rabies is communicated from one animal to another, and which produces hydrophobia in the human subject, is contained in the saliva of rabid animals. Hitherto it has been supposed that in order to communicate disease this virus must enter into the circulation, but Dr. Galtier has found that this is a mistake. The virus acts by being brought in contact with the nerves, and when introduced into the circulation it acts as a preventive of the disease. Astonishing as this assertion may seem, there is, apparently, no room for doubting it. Dr. Galtier injected the saliva of a mad dog into the veins of ten sheep, and at the same time placed the saliva of the same dog in contact with the nerves of ten other sheep. The latter all died with every symptom of rabies, while the other ten remained perfectly well. He also ascertained that when the virus of rabies was injected into the veins of sheep, it was impossible to produce rabies in them by any subsequent experiments. He has thus discovered that hydrophobia is purely a disease of the nerves, and that to inject the virus of rabies into the circulation is a certain protection against the disease, at least in the case of sheep."

# Progress of Medical Science.

CHANGES IN THE SPINAL CORD IN INFANTILE SPINAL PARALYSIS AND IN PROGRESSIVE MUSCULAR ATROPHY.—Drs. Roger and Damaschino conclude a very elaborate paper upon the lesions of the spinal cord in infantile spinal paralysis and progressive muscular atrophy. The authors conclude with the following résumé: 1st, the characteristic change in infantile paralysis is a lesion of the spinal cord, resulting in atrophy of the nerves and muscles; 2d, the lesion is situated more particularly in the anterior portion of the gray substance of the spinal cord, where it evidences itself by foci of softening; 3d, this softening is of an inflammatory nature, and the disease is a true myelitis; 4th, infantile paralysis should accordingly be named spinal paralysis of infancy, and is to be nosologically classed among affections of the spinal cord as a myelitis; 5th, as for progressive muscular atrophy, this is to be differentiated from infantile paralysis as well by its symptoms as by its anatomical lesions. The change in the cord consists essentially in an atrophy of the motor cells, without any foci of inflammation. — *Revue de Médecine*, February, 1881.

VISCERAL SYPHILIS—SPECIFIC NEPHRITIS.—M. Barthélemy at first quotes from the London Clinical Society. At a meeting of this body, held in January, several cases of hereditary syphilis were reported, in which, among other affected organs, the kidneys had been involved, being the seat of parenchymatous nephritis. Referring to such patients, Dr. Hutchinson stated that when death occurred as a consequence of syphilis, the fatal result was directly due to the nephritis. Dr. Coupland was convinced that patients who had been suffering for a long time from syphilis acquired a true predisposition for parenchymatous nephritis, and were liable to death from this condition. As a result of his personal researches, M. Barthélemy offers the following: Nephritic lesions are among the complications of all the stages of syphilis, even of the acquired disease. Such nephritic complications are always grave. Nevertheless, they are sometimes curable, not only when they occur in adults as a result of acquired syphilis, but also in children affected with the hereditary disease. Together with other specific lesions, they have this characteristic in common: their gravity is in proportion to the age of the patient's syphilis, and the period of time which has elapsed before specific treatment was begun. In children affected with hereditary syphilis, specific nephritis should always be taken into consideration, when the patients are subjected to accidents for which nephritis may be held accountable. When a physician meets with nephritis in an adult, he would do well to think of the possible specific origin of the renal difficulty, in view of the great number of cases of unsuspected syphilis.—*Annales de Dermatologie et de Syphilographie*, April, 1881.

CHOLECYSTOTOMY IN A CASE OF DROPSY OF THE GALL-BLADDER.—Dr. Lawson Tait reports this case: The patient was a woman, forty years of age. Different diagnoses had been made, such as cyst of a floating kidney, tumor of the head of the pancreas, and dropsy of the gall-bladder. Finally the opening of the abdomen was decided upon. In the median line an incision was made, extending two inches above and the same distance below the umbilicus. The aspirator needle being introduced into the summit of the tumor, from twelve to fifteen ounces of a whitish fluid escaped. The gall-bladder was then opened. On inserting the finger into it, the pressure of a freely movable calculus was ascertained, and on further examination, another rather larger one, pyriform in shape, was found obstructing the cystic duct. It was deeply imbedded in the walls of the latter, and was undoubtedly the cause of the dropsy. This calculus was extracted with great difficulty, on account of the extreme mobility of the gall-bladder, and the intimate adherence of the foreign body to its walls. Lithotrity was practised with great care. The nucleus of the calculus was crushed by means of a pair of pincers. The cavity of the gall-bladder was then washed out in such a manner that not a fragment of the stone remained. Finally, the incision in the gall-bladder was united by suture to the upper extremity of the abdominal wound, leaving a free opening communicating with the viscus mentioned. The rest of the abdominal incision was closed in the usual way. The wound in the abdomen was washed with antiseptic solutions. Nothing noteworthy occurred. Bile flowed normally, until September 3d, sixteen days after the operation, when washing with the solution was replaced by the application of zinc ointment. By September 9th the wound had cicatrized, and on the 20th the patient returned to her home, having gained thirteen pounds during her stay in the hospital. In a case of this kind, Dr. Tait advises that an explorative incision be made early, in order that the nature of the disease may be ascertained, and the necessary operation performed. Antiseptic precautions should also be employed.—*Archives Générales de Médecine*, June, 1881; *Medico-Chirurgical Transactions*, vol. xlv., 2d series.

ABSENCE OF THE LEFT KIDNEY.—At the post-mortem examination of the body of a patient, twenty-two years of age, who had died of interstitial nephritis after repeated attacks of uræmic eclampsia, the left kidney, as well as the left renal artery, were found to be absent. The aorta in this situation gave off but one branch. After careful removal of the bladder, only one ureter could be seen opening into it, which belonged to the right kidney. The orifice of the left ureter was sought for in vain. The right kidney occupied its normal position and had the ordinary dimensions of a healthy organ. It was hard to the touch, and, on removal of the capsule, presented a slightly granular surface. On section the pyramids were seen to occupy their normal situation, and to be directed toward a single calyx and pelvis. There was no association or fusion of two kidneys to form a single one. The greater part of the pyramids were altered. Only three had retained their normal dimensions, the others were visibly diminished in size or had almost entirely disappeared.—*Archives Générales de Médecine*, July, 1881.

ON TENDON REFLEX IN THE DIAGNOSIS OF DISEASES OF THE SPINAL CORD.—Dr. J. Hughlings Jackson reviews Buzzard's paper on this subject in the July number of *Brain*. It is a contribution to the arguments which the clinical facts afford in favor of the reflex mechanism of the phenomena. Buzzard points out that a convenient mode of testing the patella reflex is by lightly touching the patient's thigh with the left hand, whilst with the right a blow is given with a percussion stethoscope or hammer on the ligamentum patellæ, the patient being

seated with his foot resting firmly upon the ground and slightly advanced. The quadriceps is felt to contract. The mode is especially convenient for the examination of females.

By a rough diagram, Buzzard shows the nervous arc of communication extending from the tendon to the posterior roots, anterior bone, anterior roots, and thus to the muscle. He remarks that the integrity of the arc insures the contraction of the muscle (if *it* be healthy) to a blow on the tendon. On the other hand, the response to a blow nearly always proves that the arc is not seriously interrupted; but he makes the important observation that there is an exception to this rule. There may be atrophy of some ganglion cells in the anterior bone. If this lesion existed alone, tendon reflex (as shown by another diagram) would be abolished; but if the lateral column be sclerosed, the inhibitory influence from above is so much interrupted that reflex occurs. In cases, therefore, of lateral sclerosis we may get the patella tendon reflex preserved, although the nervous arc is not intact. He ascribes the exaggeration of tendon reflex to the interception of controlling influence which comes down through the lateral column, and points out that the absence of this influence (*e.g.*, in a case of hysterical paralysis) produces similar effects to its mechanical interruption by means of sclerosis, though in the former case they are only temporary. He points out that in spastic paraplegia, secondary to myelitis, the exaggeration of reflex may be connected with a temporary interruption (something short of sclerosis) in the lateral column, and may disappear as the lesion clears up.

Buzzard has in several cases witnessed the occurrence of ankle-clonus in hysteria, which in one case ceased suddenly, so to speak, on the patient's recovery. He points out, therefore, that the occurrence of ankle-clonus must not be regarded as conclusive evidence of a structural lesion of the spinal cord. He describes an extremely interesting case of a man in whom the patella tendon reflex was absent on each side during an attack of syphilitic myelitis, which apparently affected a lateral half of the cord. In the limb corresponding to the seat of lesion—the left—it was absent in connection with motor paralysis and muscular wasting, the facts apparently pointing to the arc being "cut" in the anterior bone. In the right limb it was also absent, but in entirely different circumstances, for here the motive power was perfect and the muscle not wasted, but the cutaneous sensibility was lost. To cause this affection of sensibility, the sensory part of this arc must have been cut. This showed that the lesion, although largely confined to the left half of the cord, encroached a little upon the posterior gray matter of the right half also. In confirmation of this view, Buzzard points to the fact that there was a patch of cutaneous anæsthesia in the neighborhood of the left trochanter. Buzzard makes the important suggestion, that the patella tendon reflex is lost somewhat easily, and that it will often be found wanting when there is but a slight lowering of faradic excitability. Great care is therefore necessary in testing electrically, to prevent the error of ascribing the break, which he supposes to occur in the nervous arc, to a lesion in its sensory instead of its motor portion.

La Folie à Deux.—*Brain* defines folie à deux as a monomania, usually of persecution, happening simultaneously to two individuals, the causes of which are: 1st, Hereditary predisposition; 2d, Intimate and constant contact in daily life; 3d, An exciting cause acting on both.

Dr. Régis, of the Asylum of St. Anne (*Gazette des Hôpitaux*, January 29, 1881), recognized two varieties of this disease. 1st. That in which, of the two individuals who become insane, the one first attacked communicates his insanity to the second who remains on the borderlands of alienation, and may recover on being released from the dominating influence. 2d. More complex and rare, where both are subject to the same form of madness, having been exposed to the same morbid causes and predisposition. The first division has been fully described by Lasègue and Falret, and may be summarized in the following manner: Only one of the two is insane, he having communicated his delusions to the second by a certain moral and intellectual superiority. The individuals have lived in intimate contact. The active agent communicates part of his insanity to the passive; but between the two there is a line of demarcation, the first only being legally insane. Moreover, the latter speedily recovers when removed from the influence of the former. The second division comprises those cases of true *folie à deux* presenting the following characteristics, as observed in five pairs of cases: The two individuals become insane simultaneously. They are hereditarily predisposed to mental alienation. They live in intimate and constant contact. The exciting cause operates on both in the same way and at the same time; the mental manifestations resulting are substantially the same; the hallucinations and delusions are the same. Separation of the two is not attended by beneficial results.

Allochiria—A Peculiar Sensory Disorder—Obersteiner observes (*Brain*, July, 1881) that although great progress has been made of late in the methods of investigation of diseases of the nervous system, yet there is an affection of sensibility which has hitherto escaped special notice. It consists in the fact, that though the sensibility is retained more or less completely, yet the patient is not clear, or is frequently, if not constantly, in error, as to which side of the body has been touched. He would term the phenomenon "sensory allochiria" or contusion of sides. This symptom is so easy to determine, that no long description of method is required. When we test the sensibility of a patient on the leg, for example, and find that the two points of the æsthesiometer are recognized as such at a moderate distance apart, or when a prick or pressure is fairly localized, and yet, as frequently occurs, the irritation is referred to the other side, we have the condition before us. The power of localization as to details is retained, while doubt or error exists as to the side touched, the irritation being commonly referred to the corresponding part of the other limb. The phenomenon is less rare than overlooked, as errors on the part of the patient are apt to be regarded as merely a lapsus verbi. It would be erroneous to look upon allochiria merely as a symptom of great sensory impairment. It must be regarded as a completely distinct symptom by itself. In favor of this view the fact may also be adduced that in very many cases of central neurosis, allochiria is altogether absent, notwithstanding the presence of a marked degree of anæsthesia. Although the writer does not pretend to be in a position to offer a sufficient anatomical and physiological explanation of this peculiar symptom, yet he would advance the following considerations: Apart from an hysterical case, the

allochiria occurred in cases of disease of the spinal cord, mostly in tapes dorsalis. In one case, which was of a different nature (compression—myelitis), there was a marked degeneration of the posterior columns, as shown by the autopsy. It is probable, therefore, that the degeneration of the posterior columns is the cause of the allochiria, though we are not yet able to indicate the more minute changes which lead to it.

The clinical facts recorded also bring out certain physiological points of interest. They show that there is an intimate connection, in a sensory relationship, between corresponding regions of the body, and also that an exactly isolated conduction in the sensory paths of the cord does not exist under all conditions, but under certain circumstances the sensory impulse leaves the accustomed paths and crosses to those of the other side.

A Case of Bursal Swelling of the Wrist Successfully Treated by Division of the Annular Ligament.—Dr. J. E. Copeland has reported a case of bursal swelling of the wrist (*American Journal of Medical Sciences*, July, 1881), in which relief was obtained by resorting to Syme's operation of cutting through the annular ligament. The patient had been heroically treated by a number of practitioners by incisions, punctures, blisters, etc., and all without benefit. The affected wrist measured thirteen and one-fourth inches in circumference, the corresponding wrist of the normal size measured seven and three-fourths inches. There were two firm and hard protuberances over the styloid processes, both of the radius and the ulnar. On manipulating the parts between these protuberances, a sensation as of hard movable bodies impacted in fluid was imparted to the fingers. The operation consisted of dividing the annular ligament by an incision between the tendons of the extensor communis digitorum and the extensor carpi ulnaris muscles. Imbedded in the substance of the enlarged wrist, along the incision, were a number of fibrous or cartilaginous bodies of different sizes, ranging from that of a flax-seed to a small cherry-stone, and of irregular shapes. After the operation the patient was relieved of pain. The wound, treated antiseptically, was kept open and treated upon general principles, until the end of the sixth week after the operation, when the wrist was reduced to eight and one-fourth inches in circumference. Dr. Copeland is inclined to the opinion that operative measures are justifiable in swellings of this character, which strengthens the theory already advanced by Syme.

May Iodide of Potassium Excite Bright's Disease?—With a view to ascertain to some extent the general condition of the kidneys of persons who suffer from late syphilis, as well as to note the effects of antisyphilitic treatment upon these organs, Dr. I. Edmondson Atkinson, of Baltimore, has made a series of observations of cases which occurred in his out-patient service, and in the wards of the University Hospital. Of the seventy cases recorded in the *American Journal of Medical Sciences*, July, 1881, nineteen betrayed evidences of renal disturbance; thirteen being characterized by the presence of albumen in the urine, constantly or at irregular intervals, while in eighteen the microscope revealed in the urine casts of the renal tubules. In twelve cases albumen and tube casts were simultaneously present. The kidneys were affected in very different degrees in the different cases. In few instances were the evidences of kidney disease pronounced and constant. For the most part they were slight and transitory. The cases under observation, where inconsiderable disturbance of the renal organs was associated with the administration of the iodide of potassium, were proportionally numerous. In only a few was it possible to attribute to the drug, with any degree of confidence, a causative influence in exciting the derangement. Although, in the majority of the cases recorded, no definite connection between the iodide ingested and the albumen or tube casts found in the urine could be established, the occurrence of the latter was unexpectedly frequent, and out of all proportion to what is usually supposed to prevail. Dr. Atkinson concludes that while the evil effects of the iodide of potassium upon the kidneys are small and for the most part transitory, the occurrence of more severe alterations is not impossible, nay, is probable. To these evil effects some individuals are more susceptible than others.

On the Influence of Sinapisms on Sensibility.—Adam Kiewicz, in a lecture to the physicians of Cracow, related some interesting observations on the influence of mustard plasters on anæsthesia and normal sensation. In previous researches he had shown that the secretion of sweat was dependent on a centre in the medulla oblongata, acting both through cerebro-spinal and sympathetic tracts. Taking up the subject of "transfer" of sensibility, so well known in connection with metallotherapy, he found that sinapisms produced precisely the same effect as metals.

In a case of organic hemianæsthesia (proved by a post-mortem examination to be dependent on hemorrhage into the lenticular nucleus and internal capsule), he succeeded, by sinapisms applied to the anæsthetic side, in restoring sensibility on the whole of the paralyzed side, lasting several days. The restoration was, however, not permanent. There was no transference.

In the various forms of hysterical anæsthesia the results were variable. In certain irregularly distributed anæsthesia, sinapisms restored sensibility for a greater or less length of time. In a case of hysterical hemianæsthesia, sinapisms produced all the phenomena of transfer. After a few days the old condition returned, but on renewal of the sinapisms sensibility was completely restored without being lost on the other side. In another case of hemianæsthesia and hemiparesia, complete transfer occurred, also with lowering of the temperature, amounting to 5° on the sound side, and corresponding rise on the side formerly anæsthetic.

Following out indications supplied by these observations, he investigated the influence of sinapisms in healthy persons, and found that the sensibility for touch and pain increases on the side of irritation, and diminishes correspondingly on the symmetrically placed point on the other side. Hence it appears these forms of sensibility are bilaterally organized in the nerve-centres, and functionally antagonistic, as shown by the diminution of the one when the other is increased; the result also seems to be that the sense of touch and pain is independent of the richness of the part in nerves, and is a purely qualitative function of the skin. As regards the thermal sense, however, it was found that though it is also rendered finer by sinapisms at the point of irritation, yet it is not correspondingly diminished on the other side. The thermal sense, therefore, does not appear to be bilaterally organized.—*Brain*, July, 1881.

# THE MEDICAL RECORD:

## A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., Editor.

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## THE LESSON OF THE BULLET.

The lessons to be learned from the study of the case of President Garfield are not few nor unimportant. Not the least of these is the one bearing upon the courses of bullets fired into the human body. The history of the wound, from the time the latter was inflicted until its surprising effects were manifested at the autopsy, has served in a special manner to accentuate an error in diagnosis, which is the more deplorable, as it has become so notorious in connection with a patient in the treatment of whom the entire world was interested. The only comfort that can now be taken, however, is in the thought that the mistake was inevitable, and that many useful and practical lessons of experience will grow out of it. It is well known that bullets in striking against bone become deflected in strange courses. While making due allowance for this, the appearance of a pus sinus communicating with the point of entrance of the ball, and passing in the direction of least resistance toward the iliac fossa, misled every one connected with the case. This was a strange instance, in which a long, narrow sinus, only indirectly associated with the original injury, exactly simulated in every essential particular a ball-track. It was in fact the only direction into which a probe could pass with ease, and was the only one which was accessible for exploration. In this respect it is virtually unique as a case of gun-shot injury. It is true burrowing pus-pouches are not uncommon in connection with fractures of the ribs, but, as far as we are able to ascertain, there is no case on record in which a gun-shot wound of these bones gave rise to such a long and narrow channel in such a locality. Considering all the main circumstances connected with the injury, the conclusion would appear to have been inevitable that the missile should have taken precisely the course of the pus sinus. There was no symptom, so far as the wound was concerned, that pointed to any possibility of other direction for the bullet-wound, not even excepting the early nervous phenomena referrable to the side of the scrotum and in the skin of the legs and feet. The history of the case from this standpoint develops a new interest in the study of gun-shot wounds of the ribs, and affords a striking example as to the manner in which an ordinary sinus can apparently take the supposed course of a ball. It brings out in the strongest possible relief one of the elements which must hereafter be taken into account in diagnosticating the extent and direction of gun-shot wounds in these localities.

Again, a new importance must be given to the study of the post-peritoneal region of the loin and the possibilities of the extensive injury which it may suffer from projectiles without compromising life. In saying this much, we assume that the pus-track was the most likely course of a bullet deflected downward, and that being nothing more nor less, the patient should have recovered.

It is quite comforting to know that our London contemporaries generally acknowledge that the error in locating the ball was not only perfectly excusable, but wholly unavoidable; and also that the case was treated throughout on sound surgical principles, with the best of results considering the grave and complicated character of the injury. Their comments are not only generous, but just, and must tend to settle many points which might otherwise be open to much unprofitable discussion.

There apparently was only one thing wanting to make the ante-mortem diagnosis positive, and that was to actually touch the ball. It is safe to say that surgeons will not, in the light of this remarkable case, fail to resort to what is now proved to be the only absolute trustworthy test as to the real locality of any bullet; and failing to satisfy themselves in that particular, to give a becomingly guarded opinion.

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### TUBERCULOSIS COMMUNICATED TO INFANTS BY MILK.

We have at various times referred to the question whether tuberculosis can be conveyed to human beings by the milk or flesh of tuberculous cows. There are several views in regard to this matter. Some authorities believe it to be an established fact that tuberculosis can be thus conveyed, considering the two diseases as quite identical. Others assert that bovine tuberculosis is a modified form of human tuberculosis. It may be developed by infection in man, but in this case it gives rise to a characteristic train of symptoms, with anatomical lesions resembling those found in the tuberculous cow. Cases thought to illustrate this "bovine tuberculosis" in human beings have been reported in England by Dr. Creighton.

A third view, which need not greatly conflict with the second, is that advocated by Virchow, whose special investigations of this disease entitle him to

speak with much authority. Virchow believes that the so-called bovine tuberculosis, or pearl disease, differs anatomically and pathologically from human tuberculosis, the lesions being sarcomatous. And he thinks it at least premature to suppose that this former disease can be communicated to human beings by the use of flesh or milk.

There has recently been reported, however, a case which certainly bears strong evidence in favor of the pearl disease being communicable in the way supposed.

Professor Demme, physician to a children's hospital at Berne, had brought to his care an infant about six months old. The child was born of healthy and vigorous parents, and it weighed at birth six and one-half pounds. It had been nursed by its mother for five months, and had during that time doubled its weight, continuing healthy in every way. In the sixth month it was weaned, and received regularly, besides other food, the milk from a single cow. Very soon the infant began to sicken. The abdomen became enlarged. From time to time it had diarrhœa. Examination of the thoracic organs revealed no signs of disease. Prof. Demme prescribed the most careful and nutritious diet, adding to the regular amount of milk, beef-juice, brandy, etc. The patient continued to lose flesh, however, and died in about four months. Autopsy revealed tuberculous lesions in the intestine, most marked in the jejunum and ileum. The lungs and meninges were normal.

Two months later the cow from which the milk for the infant had been obtained died. On opening its body the lesions of the pearl disease were found to be strikingly developed.

As the family of the child was perfectly healthy, including two older brothers, the case looks somewhat like one of tuberculous infection. It is important at least to record such histories. There may in time be enough evidence secured to enable positive opinions to be expressed. And this case is sufficient to be a warning to physicians that they learn something about the health of the cow when its milk alone is used by an infant patient.

### THE SANITARY EXHIBITION IN NEW JERSEY.

THE Sanitary Exhibition, at the State Fair, under the direction of the New Jersey State Board of Health, was an encouraging success. The display of sanitary appliances was not so large as one would wish, yet it was sufficient to warrant making it a feature of the Fair in the future. It was undoubtedly useful as a means for educating the people in sanitary matters. At least ten thousand people visited the building. The department of sanitary plumbing was very full, and the people had ample opportunity for becoming acquainted with the mysteries of traps and soil-pipes.

Professor Leeds, of the Stevens Institute, made an exhibition of over four hundred samples of foods and drugs that he had analyzed. Each sample was displayed in a bottle bearing a label on which was stated the results of the analysis. It is interesting to know that the adulterants used in this country are the same as are employed in England and described by the English analysts. Examples of poisonous adulterations are very rare; only one specimen was shown in Dr. Leeds' collection, and that was in pickles. Traces of copper were found. Adulteration is a commercial and not a sanitary problem.

### THE MATERIA MEDICA SOCIETY.

IN another column we give an extract of an address read at a recent meeting of this new society—which at present numbers fourteen members, all of whom are well-known professional gentlemen of this city—each of whom is pledged to provide an appropriate essay in turn. The society has but two officers, a president and a secretary, who are selected by lot instead of ballot. There are no honorary or corresponding members. Candidates for admission must present an appropriate and acceptable thesis prior to being balloted for. Evidently the society means work, and from our knowledge of its personnel we have every reason to expect work of a superior quality.

### REGULATIONS FOR PLUMBERS.

IT is a matter for much congratulation that the Health Board of this City has not only secured the licensing of plumbers, but has duly adopted a stringent and comprehensive code for their guidance. In the list of requirements recently published, every necessary point referring to proper drainage is insisted upon, as well as the character of workmanship calculated to insure it. It is distinctly stated what the diameter, construction, and material of pipes shall be; how the proper ventilation of them is to be effected; what means shall be adopted to insure the escape of sewer-gas from the roof; and how the joints of pipes can be safely and effectually soldered. The plumber need no longer plead ignorance as to what is justly required of him, and when not properly watched may be thrown upon his honor to do his duty. It becomes a serious question whether or no the Health Board will be able to restrict the majority of plumbers to straightforward work. Inspectors are out of the question. If they were possible, no one could undertake to follow the dodging into darkened shafts, or appreciate intelligently the developments of their costly tallow dips. We confess to a dark suspicion that, despite the attempts at radical reform, there will not in the long run be any perceptible lessening of plumbers' bills. Until the Board can regulate the price of lead, charcoal, candles, and helpers' time, the main utility of the craft will still be triumphantly vindicated.

# Reports of Societies.

## THE AMERICAN GYNECOLOGICAL SOCIETY.

*Sixth Annual Meeting, Held in New York, September 21, 22, and 23, 1881.*

WEDNESDAY, SEPTEMBER 21ST—FIRST DAY—MORNING SESSION.

THE Society met at the Library Hall of the New York Academy of Medicine, and was called to order at 10 A.M. by the First Vice-President, DR. THADDEUS A. REAMY, of Cincinnati.

DR. WM. H. BYFORD, of Chicago, the President, on account of sickness, was unable to be present.

THE ADDRESS OF WELCOME

was delivered by FORDYCE BARKER, M.D., LL.D., President of the New York Academy of Medicine, who gave a brief résumé of the history of the organization, spoke of the fruits of its labors, seen in the five volumes of Transactions, was referred to the frank and cordial manner in which the pre-eminence of American gynecologists was conceded by the most distinguished men from all the European nationalities represented at the International Congress, notwithstanding the differences of opinion in regard to many special subjects.

The address closed with the following words: "I esteem it as a high honor, as well as a great pleasure now, in behalf of the New York Academy of Medicine, to welcome the American Gynecological Society at its sixth annual meeting to this hall. The presence of such numbers to greet you at its opening warrants me also in welcoming you in behalf of the whole profession of this city, and in expressing the hope that its three days' session may be memorable in the future, not only as a refreshing season, but as an era in its history, from its contributions and additions to our science and our art.

"As our society bears a national name, I may be pardoned for an allusion to one striking contrast as regards the associations which surround us, and must, in a degree, affect us all at the present time, as compared with those at our first gathering in this hall. Then the country was celebrating the first centennial of its existence as a nation. Now the whole country—North, South, East, and West equally—is clouded by a national sorrow which annihilates the bitterness of party feeling and unites all in a common bond of sympathy and mourning. On two occasions before the country has felt the shock which must follow the death of its President from disease. Another fell by the hands of an insane fanatic at the close of a fearful struggle between different sections of the country, and his death was lamented as a great public calamity by both parties in the contest which had just terminated. But no one ever could have anticipated the possibility that one chosen by the suffrages of a free and reunited people, bound together more closely than ever by the ties of common interest and sympathy, could be in danger of his life from an assassin. If the presence of such events casts a deep shadow of sadness over our festive reunions, it should not diminish our zeal for work in the noble aims to which the society is devoted."

ACUTE HYPERÆSTHESIA OF THE PERITONEUM, EITHER CIRCUMSCRIBED OR DIFFUSED, FOLLOWING MINOR GYNECOLOGICAL OPERATIONS AND MANIPULATIONS.

DR. SAMUEL C. BUSEY, of Washington, D.C., sent a paper on the above subject, and reported a case which represented the type of a class occasionally occurring in females, of which the predominant clinical feature is pain and tenderness diffused over the entire area of the abdomen, unaccompanied with the other usual symptoms of inflammation. The paper was read by Dr. Jos. Taber Johnson, of Washington.

One week previous to the expected menstruation, he introduced without difficulty a laminaria tent about the size of an ordinary metallic knitting-needle. Soon after leaving the house the pain began and rapidly increased in intensity, reaching in about forty minutes, when the tent was withdrawn by her husband, a degree of agony never before experienced. The pain began in the womb, and was speedily diffused over the entire area of the abdomen. The sensitiveness was so acute that the weight of the bed-clothing could not be borne. Every jar of the bedstead or of the floor of the apartment increased her suffering. Coldness of the extremities, pallor of the face, nausea and vomiting, and vesical irritability took place apparently simultaneously with the hyperæsthetic phenomena. A twenty-drop dose of chlorodyne was given and was repeated, and fomentations were applied to the abdomen. The next day she was quite relieved, a slight feeling of soreness in the middle epigastrium only remaining. Tympanites and fever were absent. What is the pathological condition? The absence of fever, tympanites, and effusion exclude inflammation.

If inflammation is excluded, would not the freedom from fever, rapid subsidence of symptoms, and absence of consequent conditions, bar the hypothesis of simple inflammatory hyperæmia? The theory of inflammation is, however, unsatisfactory, and in the above case would prove too much, inasmuch as it would attribute the cure to the efficacy of a moderate and evanescent narcotic, and pretermit the more logical conclusion, that the speedy relief was due to the prompt removal of the cause. If the withdrawal of the tent was, in fact, the remedy, then the assemblage of symptoms was manifestly a neurosis, finding its explanation in the excessive sensibility of the peripheric endings of the sympathetic nerves supplying the part irritated, and in the morbidly heightened excitability of the receptive nerve-centres, which was so great as to produce reflexly the gastric, cardiac, and vasomotor disturbances.

The clinical picture presented represents, probably, an observation of unusual intensity; but the gradations of suffering, varying from an aggravated to milder forms, sometimes barely sufficiently marked to attract attention, constantly threaten our confidence in the harmlessness of minor gynecological operations and manipulations, and for the time being disturb the equanimity and self-reliance of the most astute diagnostician.

DR. I. E. TAYLOR, of New York, thought the tendency was to look for a local cause, such as introduction of the probe, excessive walking, etc., in explanation of pelvic pain, and to overlook two other prominent causes, namely, hysteria and neuralgia. He then referred to a case in which a patient had suffered from symptoms suggestive of peritonitis on the left side for several years, and yet there was no inflammatory action there whatever. He thought that a distinction should be made between local and

general causes. Malaria was a common general cause for such local manifestations, and such cases, as a rule, readily yielded to quinine. He thought that Dr. Busey's case could be classed among the neuroses.

Dr. Noeggerath, of New York, said that the discussion had brought out several conditions which had been diagnosticated under the name of peritoneal hyperæsthesia. Out of the various forms three distinct conditions could be obtained: 1, True peritonitis; 2, true neuralgia of one or the other tracts of nerves supplying the peritoneum and its contents; and 3, neuralgic affection of the uterus. He regarded the term 'peritoneal hyperæsthesia' as descriptive only of a symptom, and that the cause should be sought for. He then gave the history of a case in which an apparently healthy young girl became suddenly frightened, was soon afterward attacked with violent abdominal pain, and died without other symptoms. At autopsy a teaspoonful or so of serous exudation was found in the peritoneal cavity, near the uterus on each side, and on examination with the microscope it was found to be crowded with cells belonging to the Fallopian tube. The tubes were then examined and found to be the seat of a catarrh, probably of long standing. The explanation then was that the fright had given rise to expulsion of the septic matter from the Fallopian tubes into the peritoneal cavity. Had not a careful examination been made, the case might have been regarded as one of peritoneal hyperæsthesia, instead of peritonitis, which it actually was. If so difficult to find the cause of death at autopsy, how natural that a large number of truly inflammatory cases should be called neuralgic during life!

Dr. J. Marion Sims, of New York, had seen many such cases as described by Dr. Busey, but he had not associated them with peritonitis. He had always regarded the condition as a neurosis, which would disappear within a few hours if treated with opiates. He had seen these symptoms develop after the introduction of a tent, division of the cervix, attending menstruation, etc. He was not quite certain that the term 'hyperæsthesia of the peritoneum' was a proper one, as the hyperæsthesia usually existed all over the abdomen.

Dr. Trask, of Astoria, N. Y., believed the term 'acute hyperæsthesia' to be a better one than 'neuralgia of the peritoneum.' He also believed that the condition could be developed by general as well as local causes, and cited a case in which it was evidently due to sewer-gas poisoning.

Dr. Van De Warker, Dr. Engelmann, and Dr. Emmet further discussed the paper, and thought that the term 'acute hyperæsthesia' might mislead. The paper was also discussed by Dr. Reeve, of Dayton, O., and Dr. F. H. Campbell, of Augusta, Ga.

Dr. H. J. Garrigues, of New York, then read a paper entitled

EXPLORATORY PUNCTURE OF THE ABDOMEN.

The author had examined the fluid of a large number of ovarian cysts and compared it with that found in other abdominal tumors and with fluid from collections in other parts of the body.

Myxoid proliferous cystoma, being by far the most common variety of ovarian cysts, was discussed in detail. As a rule the physical characters are so marked that the fluid can be recognized by its mere appearance. The most important physical character is the viscidity, but it may be absent in ovarian cysts and found in other cysts.

Ovarian fluid does not contain any characteristic chemical element. The coagulability has a certain diagnostic value. The test claimed as characteristic for ovarian cysts, that the coagulum is redissolved in boiling acetic acid, is utterly unreliable.

Of much greater importance is the microscopical examination. It is only by studying the cyst-wall that the nature of the formed elements found in cyst fluid can be understood. The most important elements are columnar epithelial cells seen in side view. The corpuscles, known as Drysdale's granular ovarian cells, are merely nuclei in fatty degeneration, and have no diagnostic value. The author has been able to follow their origin from the time when they are yet embedded in the epithelial cells on the inside of the cyst.

The spindle-shaped cells, smooth muscle-fibres, which have been claimed to be pathognomonic of fibro-cysts, the author has found in the fluid of an ovarian cyst. There is no pathognomonic morphological element in ovarian cyst fluid, but in the great majority of cases ovarian fluid can be distinguished from all others by the mere examination, and, combined with the data gained by the history and physical examination of the patient, the examination of the fluid is of paramount diagnostic value.

There was no means of distinguishing a cyst of the broad ligament from that of the ovary by the nature of the contents.

An instantaneous and complete coagulability is characteristic of uterine fibrocyst, but has only been found in a minority of cases. Columnar epithelial cells have never been found in uterine fibro-cysts.

The advantages to be gained by examination of the fluid are so great that it ought to be undertaken in every case before operation. By using a fine canula and aspirator, and pushing the trocar in slowly, the danger of wounding vessels is exceedingly small. The real danger is from carrying septic matter into the interior of the body, and that could be avoided by antiseptic precautions. The whole amount of fluid found in the cavity opened ought to be withdrawn in order to avoid the pouring out of the remainder into the peritoneal cavity. After the operation the patient ought to stay four days in bed, in order to further guard her against peritonitis.

Dr. T. M. Drysdale, of Philadelphia, differed with the author of the paper, and still adheres to the pathognomonic value of the "ovarian cell," or perhaps better, the "ovarian corpuscle."

Dr. Leopold Meyer, of Copenhagen, a member by invitation, was of the opinion that tapping is not so frequently resorted to as Dr. Garrigues seemed to think it should be. He believed that the cases in which tapping was necessary to diagnosis were infrequent.

Dr. H. P. C. Wilson, of Baltimore, thought, if there was grave doubt concerning diagnosis, the exploratory puncture might be available; but he felt sure that tapping uniformly diminished the chances of success in a subsequent ovariotomy.

Dr. T. A. Emmet, of New York, thought it should be done only as an exception to the rule.

Dr. Barker, of New York, referred to a case in which, at autopsy, it was found that a mesenteric vein had been opened by the trocar, and the peritoneal cavity was filled with blood.

Dr. Lyman, of Boston, was inclined to agree with Dr. Meyer.

Dr. Dunlap, of Springfield, O., thought that, in rare cases, tapping might be necessary in order to complete the diagnosis by microscopical examination.

Dr. Campbell, of Augusta, Ga., suggested that Dr. Garrigues referred to exploratory puncture, or tapping, for purposes of diagnosis, the operation being done with a small needle, and special precautions being taken that the operation do no injury.

Dr. Emmet reminded Dr. Campbell that death had occurred after the use of the hypodermic needle for purposes of diagnosis, and he had seen inflammation of the sac follow the withdrawal of not more than half a drachm of fluid.

Dr. Kimball, of Lowell, avoided tapping if possible; yet he could recall only a single case in which bad results had followed the operation.

Dr. Reeve, of Dayton, O., thought that tapping should be resorted to in exceptional cases.

The discussion was made the special order for the afternoon session.

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Wednesday—First Day—Afternoon Session.

The society was called to order at 3 P.M. by Dr. Reamy, and the discussion on

EXPLORATORY PUNCTURE OF THE ABDOMEN

was renewed by Dr. G. J. Engelmann, of St. Louis, who, as a means of diagnosis, regarded the operation as an important one, and one which might be necessary in certain cases; perhaps not so often, however, as one might be led to infer from Dr. Garrigues' paper. The exploratory puncture had, perhaps, more scientific interest than practical importance.

Dr. Howard, of Baltimore, avoided the operation if it was possible to do so, and yet the life of the patient had doubtless been saved by the procedure.

Dr. Drysdale, of Philadelphia, had had large experience in tapping, and he was unable to recall a single case in which a fatal result followed the operation.

Perhaps the method had something to do with the results, namely: Place the patient upon the back, in the semi-recumbent position, with the head and shoulders well-supported, and with a sheet supporting the abdomen, as the fluid flows away. He regarded it as a very dangerous proceeding to tap and only partially evacuate the cyst.

Dr. Dunlap regarded manipulation of the tumor for purposes of diagnosis immediately after tapping as a very dangerous procedure.

The discussion was continued by Drs. Chadwick, of Boston, Noeggerath, of New York, and closed by Dr. Garrigues.

The title of the next paper was

NOTES ON CASES OF PELVIC EFFUSION RESULTING IN ABSCESS,

by Dr. H. G. Lyman, of Boston. From 1875 to 1880, inclusive, one hundred and forty-six cases of pelvic effusion had been treated by himself and his colleagues in the Boston City Hospital. These cases were admitted at all stages of the disease, and of them there were forty-one which were already at the time of admission, or soon afterward became, cases of pelvic abscess. It was not the design of his paper to enter upon any elaborate discussion of the pathology of the disease, but to direct the attention of the society more particularly to the following considerations:

*First.*—The necessity of a more general recognition by the profession at large of the fact that pelvic effusions were of extremely frequent occurrence, that very often they were not recognized, through error in diagnosis, and especially from the fact that, when arising from pelvic peritonitis, they were commonly absorbed, leaving only a focus of induration.

*Second.*—The extreme importance of recognizing in these effusions the earliest advent of suppuration, and in doubtful cases the propriety of a resort to the aspirator, as being the least of two evils.

*Third.*—Suppuration being recognized, the importance of giving early exit to the pus per vaginam, if by any means this could be safely accomplished, before the danger was incurred of its extension to the surrounding tissues, with long-continued and exhausting discharges, too often resulting fatally.

Dr. A. H. Smith, of Philadelphia, regarded the practical point, namely, early opening such abscesses per vaginam, as an exceedingly important one. Under proper antiseptic precautions, he thought the risk was trivial, while the dangers from suppuration and spread of pus were necessarily very great.

Dr. Ellwood Wilson, of Philadelphia, had not attempted to interfere surgically until after the abscess had been well developed.

Dr. Fordyce Barker, of New York, had seen the aspect of the case changed entirely and in the most favorable manner by the introduction of a hypodermic needle and drawing off one or two drachms of serum. He advocated early operative procedure.

Dr. Paul F. Mundé, of New York, advocated early operative procedure for the removal of pus.

Dr. Van De Warker, of Syracuse, N. Y., believed that the spontaneous escape of pus through the bladder or the rectum was not a true opening, but that a pus cavity was left which, as a rule, never evacuated itself. He thought it was sometimes very important to open such abscesses, late as well as early.

Dr. Emmet, of New York, a few years ago did not hesitate to use the trocar, but his experience had made him more conservative, and he now hesitates before thrusting in even a hypodermic needle.

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Thursday, September 22d—Second Day—Morning Session.

The society was called to order by Dr. Reamy, at 9.30 A.M. The first paper was read by Dr. N. Bozeman, of New York, and entitled:

GENITAL RENOVATION, PARTICULARLY BY KOLPOSTENOTOMY AND KOLPOECPETASIS, IN URINARY AND FECAL FISTULES.

Dr. Bozeman proposed the term genital "anakainosis," meaning the opposite of genital "kleisis," for the operation practised by him (since 1855), by renewing, and, as far as possible, restoring the vagina to its natural dimensions, and by closure of fistules successfully in the vulvo-vaginal and uterine tract, without interference with its normal functions.

As an important part of genital "anakainosis" he performs "ephelkosis" (the process or act of pulling down), to make the uterus subservient to the closure of large defects in the vesico-vaginal or recto-vaginal septa. This operation he designates "hysteroephelkosis." In cases where there are defects, losses of substance in the female bladder, this organ, from disuse, remains folded up, contracted, and distorted, and for this pathological condition, found to be present more or less in all cases of vesico-vaginal, or vesico-utero-vaginal, or urethro-utero-vesico-vaginal fistules, he uses the word cystostellosis, to contract, to fold

up, as a companion word to kolpostenosis, the cicatricial narrowing of the vagina; and, as a term designating the operative procedure of cutting into cicatricial bands, adhesions, contractions, tortuosities and abnormal narrowings of the vagina, the word "kolpostenotomy" is used. Kolpoecpetasis is the opening up of the vagina by gradual dilatation with metallic or hard-rubber cylinders, or oiled-silk bags filled with bits of sponges. These operations on the female genito-urinary tract are of the greatest importance and value in maintaining the genital tract *without unsexing the unfortunate woman* who is suffering from a fistule not easily accessible to the surgeon's instruments, and for the cure of which the late Prof. Simon, of Heidelberg, proposed and practised the shutting up of the vagina—"kolpokleisis"—an operation which Dr. Bozeman condemns as unjustifiable.

The objections to kolpokleisis, besides the unsexing of the woman, are the formation of calculi, the supervention of cystitis, nephritis, pyelitis, etc. In Dr. Hergott's four cases the mortality as an immediate result of his operations was twenty-five per cent.

Dr. Bozeman then relates cases in which kolpostenosis existed and pregnancy took place; where he saved the life of the child and possibly the mother's, by kolpostenotomy and kolpoecpetasis. He had also cured cases where both recto-vaginal and vesico-vaginal fistules existed in the same woman, by kolpostenotomy and kolpoecpetasis. From extensive observation and from his conviction, already obtained by personal experience in 1870, that kolpokleisis was an exceedingly dangerous and unwarrantable operation, he recommended in preference genital anakainosis by kolpostenotomy and kolpoecpetasis. The doctor then presented a tabular statement of fourteen cases, treated by genital anakainosis in the Woman's Hospital, together with a statement of his one hundred and twenty cases of fistules, and a comparison of their results with those of Prof. Simon.

Of the fourteen cases there were: 1, urethro-vaginal fistule; 2, urethro-vesico-vaginal fistules; 3, vesico-vaginal fistules; 6, vesico-utero-vaginal fistules; 1, vesico-utero-cervical fistule; 1, urethro-utero-vesico-vaginal fistule.

For the 14 fistules in 14 patients, 18 operations were performed, and 13 fistules in 13 patients were cured with preservation of the vagina; 1 patient with 1 fistule left his service after preparatory work.

Nearly all of these cases were of an aggravated character: one with total destruction of the vesico-vaginal septum, and two with incarcerated cervices uteri in the bladder.

The percentage of his success (92.85 per cent.) was higher than Prof. Simon's, who operated on 118 fistules in 105 patients and claimed 92 cures, 87.62 per cent., including kolpokleidic cures, and cures alone by uniting the borders of the fistules. Dr. Bozeman then gave his own statistics of operations performed since 1855, when he adopted his new method of genital anakainosis, founded upon the principles of kolpostenotomy, kolpoecpetasis, cystoecpetasis, hysteroephelkosis, and splint-formed suture.

There were 150 fistules in 120 patients. The number of operations performed was 181. Of these cases, 101 were cured by uniting the borders of the fistules, with preservation of vagina=84.16 per cent.; 2 were treated and ameliorated by genital kleisis=1.66 per cent.; operations for each case cured=1.48 per cent.; 4 deaths=3.33 per cent.

Dr. E. Van de Warker, of Syracuse, N. Y., then read a paper on

FORCIBLE ELONGATION OF PELVIC ADHESIONS.

The interest in the paper centered in the fact that the plan of treatment was brought forward for the relief of symptoms in a certain class of cases; one marked symptom in this special class being pain in defecation. His method of operating was—dealing specially with posterior adhesions—to etherize the patient, and then with any convenient uterine dilator quickly and forcibly dilate the cervical canal. He then introduced a sound of large size. That which he employed in the cases reported was formed from a very large-sized male bougie, and with it he turned the uterus forward, so that the fundus could be felt above the pubes, and at the same time he forced the organ more or less upward and forward, which, in some instances, could be done to the extent of an inch or more. The after-treatment consisted in keeping the patient in bed. No supports of any kind were needed; in fact, they were contra-indicated. If the adhesions showed a disposition to contract, they would not be prevented by the use of any support. The operation might be repeated at the end of two or three months, if thought necessary. A special point he insisted upon in the treatment was that all operative procedure should be completed at one time. He had operated in four cases; in the last case the patient was not benefited.

Dr. Bozeman, of New York, had been accustomed to treat such cases, retroflexion or retroversion, with fixation, by using cylinders of sponges in the vagina. He had also treated them by columning the vagina, which consists simply in placing the patient in the knee-chest position, and making these columns in the vagina, packing it down to the pubic arch and the perineum. At the end of twenty-four or thirty-six hours the sponges are removed by the patient, the douche used for forty-eight hours, and then the columns renewed. The steady pressure would gradually increase the length of the posterior wall of the vagina, and finally restore the uterus to its natural position.

Dr. Emmet asked Dr. Bozeman if the plan of packing the vagina with sponges had been attended by any bad consequences.

Dr. Bozeman said that in not a single case had any serious complications arisen, and he had been practising the method for more than twenty years.

Dr. Campbell thought that the retroversion or retroflexion with fixation could be overcome by mechanical pressure, and to accomplish it, he had been in the habit of using an ordinary ring pessary, first applying one of moderate size, and increasing the size as the plastic material yielded and gave increased space. He thought that in many cases cure could be effected, if the patient would every night assume the knee-chest position and maintain it for some time.

Dr. J. Marion Sims had not seen twenty cases of permanent adhesions, in the class of cases referred to, in his whole life. When his friends in London and here spoke of elevating the retroverted uterus by mechanical pressure, they had been mistaken in supposing that there were any adhesions. Dr. Sims then described his own instrument devised for restoring the uterus to its proper position, and regarded it as far superior to Simpson's sound.

Dr. Wilson, of Baltimore, said that he had not been able, under any circumstances, to replace the

retroverted uterus held in position by adhesions, and keep it in position.

Dr. A. Reeves Jackson, of Chicago, was convinced that the practice advocated by Dr. Van De Warker would be ineffectual, or, if not, that it was necessarily dangerous.

Dr. Chadwick, of Boston, had been in the habit of raising the retroverted and adherent womb for several years, and in perhaps five thousand cases in dispensary practice he had seen probably six or seven hundred in which there was fixation of the uterus in the retroverted position, with more or less adhesions. It had been his practice habitually to raise the uterus in such cases, provided there was no tenderness, but he had not used any force. And in all the cases he had given marked relief to symptoms. But he never used the sound for replacing the womb, and preferred to introduce a stem and then manipulate the organ bimanually.

Dr. A. H. Smith, of Philadelphia, thought that the discussion could be simplified by making a distinction between fixation and adhesion of the uterus; for there might be fixation without adhesion—fixation from habit, for example, such as exists in a patient who has carried a retroverted womb for years, not having had the malposition, which occurred accidentally, rectified. Such uteri he had been in the habit of replacing by mechanical force. But in those cases he had not been able to retain the uterus in position without some mechanical support, and latterly he had used the intra-uterine stem-pessary, supporting it, after the organ had become accustomed to the stem, with a retroversion pessary, and happy results had been obtained.

Dr. Goodell thought there was a mistaken idea somewhere as to the meaning of the term adhesion. For Dr. Chadwick had found adhesions in six or seven hundred cases out of five thousand, and Dr. Sims had met with adhesions not more than twenty times during his entire practice. He agreed with Dr. Sims, and further said that he had not seen ten cases in which he had encountered adhesion bands. He had, constantly, cases sent to him with the statement that there were adhesions which held the uterus backward, but in the vast majority of them he had simply found the organ imprisoned in the utero-sacral ligaments. He regarded Dr. Van De Warker's practice as exceedingly hazardous.

The discussion was continued by Dr. Mundé, Engelmann, and Lyman, and closed by Dr. Van De Warker.

### THE PRESIDENT'S ANNUAL ADDRESS.

The hour having arrived for the delivery of the President's annual address, it was read by the Secretary, Dr. Chadwick. After thanking the society for the honor which it had conferred upon him, Dr. Byford proceeded to speak of gynecology as an associated branch of medicine, and believed that the appellation "specialty" should not be applied to it. He regarded the American Gynecological Society as the legitimate outgrowth of the rapid strides which had been made in this department of medicine, especially in contrast with what has more usually been called the department of Surgery. He then referred to the organization of the society and its early history. The social enjoyments of the society he regarded as not the least important. He believed that the experiment of meeting in the West had proved not to be a safe one, but that the annual meetings of the society should be held in some of the important cities on the sea-board. Dr. Byford then referred to the work which had been done by the society, as represented by its five volumes of transactions, and of the special value in which they were held and appreciated, not only at home, but abroad. The chief portion of his address was devoted to the consideration of the subject of a McDowell fund, in honor of the late Ephraim McDowell; a fund, the interest of which could be expended for prize essays, and he suggested that the American Gynecological Society should be its custodian. The recognition which the profession had already given to the genius and labors of Ephraim McDowell had been chiefly confined to the medical profession of the State of Kentucky. His plan proposed that all interested in ovariotomy should have an opportunity to contribute to this fund, and one feature of his plan was, that every ovariotomist should contribute either five or ten dollars of his fees from each operation. Whether the plan which he suggested should be matured and put into operation or not, was not a matter of so much interest to him as that some plan, well devised and carefully matured, should be put into operation for the more substantial recognition of him who may justly be called the father of ovariotomy. The address closed with congratulatory remarks upon the success which the Society had already obtained in the performance of its special work.

Dr. Isaac E. Taylor, of New York, then read a paper entitled

### ESTHIOMENE; OR, LUPUS OF THE VULVA.

The paper contained the history of seven cases, and was accompanied with colored illustrations. Although the disease had long been recognized, it was rarely seen upon the genital organs. When it occurred in that region, the pathological changes did not differ from those present when it occurred upon the face or other parts of the body. Of the seven cases reported, two were cured, two relieved, two unrelieved, and one patient died. The essential pathology he regarded as an outgrowth of the cutis alone. It was not contagious, it was not inoculable. With reference to the treatment, it was essentially local, and he had used the pernitrate of mercury, curetting, excision of the elevations, etc. Unguents should be avoided. The special feature in the local treatment was, that harm should not be done to the tissues below.

Dr. John Byrne, of Brooklyn, said that his method of treatment was purely surgical, and consisted in excising the mass thoroughly with the cautery, and then thoroughly cauterizing all subjacent tissue. When so done, the parts had granulated and healed kindly, and the process of repair had gone on without difficulty.

The paper was further discussed by Dr. Kimball, of Lowell, Dr. Barker, of New York, and Dr. Wilson, of Baltimore.

The society then adjourned, to meet at 3 P.M.

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### Thursday—Second Day—Afternoon Session.

The society was called to order at 3 P.M. by the Second Vice-President, Dr. H. F. Campbell, of Augusta, Ga.

Dr. William Goodell, of Philadelphia, then read a paper on

### BURSTING CYSTS OF THE ABDOMEN.

He made special reference to cysts which, of their own accord, burst and refilled. Illustrative cases

were given: first, that of a patient who had an abdominal tumor from which she was greatly oppressed with a bursting sensation. It was aspirated, and eight quarts of blood-stained fluid were withdrawn. It was subsequently aspirated, and the fluid withdrawn was of a greenish color. He regarded it as a monocyst of the right ovary. Subsequently a day was appointed for aspiration, but before the operation was performed the cyst burst spontaneously. On four occasions it burst spontaneously, and was tapped probably about a dozen times. Finally the condition of the patient became such as to render the removal of the tumor necessary. The cyst-wall was found to be exceedingly thin and of a beautiful conjunctival blue color. The tumor was ostensibly that of cystic degeneration of the ovary, but, upon more careful examination after its removal, it was proven to be ovarian and parovarian. The author gave some statistics of the great mortality of bursting ovarian cysts. A collection of ninety-seven cases was cited in which there were forty-six deaths and fifty-one recoveries. When, however, parovarian cysts ruptured, the fluid was so bland that fatal results did not usually occur. He had been able to find the record of only one fatal case. While tapping may cure parovarian cysts, spontaneous rupture does not always terminate so, for the cyst is apt to refill. In five cases which he had tapped, the fluid was clear like spring water, and in none had the cyst refilled. Cysts of the parovarium are almost always unilocular. They may be bilocular or multilocular, but the latter are very rare. It is questionable whether a true unilocular cyst of the ovary has ever existed.

Dr. H. J. Garrigues, of New York, remarked, that among some of the most scientific gynecologists it had become quite fashionable of late to substitute the term cyst of the parovaria for the term in common use, cyst of the broad ligament. He doubted the advantage of the substitution. Of course the parovaria can become the seat of a true cyst, but cysts might also occur, and very frequently did, along the course of the Fallopian tube, and he thought it was impossible to say, when we had to deal with such a cyst, whether it was parovarian or not, if it had been developed in the outer part of the broad ligament. He believed, therefore, that it would be as well to retain the old term. It was extremely difficult to distinguish anatomically with certainty between a cyst of the broad ligament and an ovarian cyst; or an ovarian cyst and an extraovarian. Dr. Garrigues had seen a monocyst of the ovary, and had no doubt that it existed, but it was exceedingly rare.

The paper was discussed by Drs. Barker and Sims, of New York; Kimball, of Lowell; Dunlap, of Springfield, O.; Wilson, of Baltimore; Drysdale, of Philadelphia; Reamy, of Cincinnati; and Kinloch, of South Carolina; all of whom gave the history of cases in which spontaneous rupture of ovarian cysts occurred. The discussion was closed by Dr. Goodell, who could not resist the conclusion that some of the gentlemen had mistaken parovarian for ovarian cyst.

Dr. H. F. Campbell, of Augusta, Ga., read a paper entitled

ERYSIPELAS IN CHILD-BED WITHOUT PUERPERAL PERITONITIS.

Heretofore it had been the practice that a previous or recent attendance by a physician upon a case of puerperal fever, or puerperal peritonitis, debarred him from attending any cases of labor, through fear of manual transmission of the poison of the disease to the lying-in women. It had also been regarded as scarcely less obnoxious for the physician or nurse to attend upon a case of erysipelas and subsequently to attend upon a lying-in woman. Dr. Campbell then proceeded to relate the history of a case in which a woman had well-marked facial erysipelas, and subsequently passed through labor without complication, and recovered without a single unfavorable symptom. The question is, Are the great apprehensions about coming in contact with cases of erysipelas and subsequently attending cases of confinement well based? The present case would seem to deny that principle entirely. He reported it for the purpose of obtaining an expression of opinion of the Fellows of the Society.

Dr. M. Putnam-Jacobi, of New York, suggested that Dr. Campbell's case could be explained on the ground that erysipelas is primarily a disease of the lymphatic system, and as there was no anatomical connection between the erysipelas of the face and the uterus, the wounded surface of the latter was not really exposed to the poison.

Dr. Goodell, of Philadelphia, believed that there is an intimate relation between erysipelas and puerperal fever, but to have that relation developed he also believed it to be necessary to have the phlegmonous variety of erysipelas.

Dr. Wilson, of Baltimore, had never been able, in his own private practice, to trace a case of puerperal fever to a case of erysipelas as the cause. He had traced one case to scarlet fever.

Dr. Smith, of Philadelphia, thought that thorough disinfection of the hands would prevent the physician from communicating the disease.

Dr. Lyman, of Boston, did not attend cases of labor soon after attending cases of erysipelas.

Dr. Ellwood Wilson, of Philadelphia, thought that thorough disinfection of the hands and clothing was almost invariably certain to exempt one from conveying the poison of erysipelas or scarlet fever.

Dr. Barker, of New York, believed that the intimate relationship between puerperal fever and erysipelas has been as firmly established as any fact in medicine. It was possible that with proper disinfection a physician might attend a case of simple facial erysipelas, and subsequently attend a case of confinement without harm; but the risk should not be taken with reference to cases of phlegmonous erysipelas or surgical erysipelas with suppuration.

The society then adjourned, to meet on Friday at 10.30 A.M.

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FRIDAY, SEPTEMBER 23D—THIRD DAY—MORNING SESSION.

The society was called to order at 11 A.M. by Dr. Campbell.

THE EXPANSION OF THE BLADDER OVER THE SURFACE OF ABDOMINAL TUMORS, AND ITS ATTACHMENT TO THEM OR TO THE ABDOMINAL WALLS, AS A COMPLICATION OF LAPAROTOMY,

was the title of a paper then read by Dr. T. Gaillard Thomas, of New York. It was a most striking and noteworthy fact that, notwithstanding the amount of careful study and prolonged investigation for the perfection of a capital surgical procedure, there were even yet special points which made their appearance, and which thus far had almost entirely escaped attention. An illustration of this statement could be found in the complication to which he pro-

posed to direct the attention of the Society, namely, the expansion of the bladder over the surface of abdominal tumors, and its firm adhesion to them or the abdominal walls. By the term expansion he meant that which consists in an apron-like spreading of the bladder, which is trebled or quadrupled in size over the whole of the anterior surface of the tumor from the umbilicus, or a point above it, downward to the pelvis. The literature of the subject had furnished us with seven cases of this character, in all of which a fatal issue had been the consequence of the adhesion, either from direct injury done to the bladder—the surgeon not recognizing the complication—or from failure to remove the tumor on account of its existence; and yet in no work with which he was acquainted was this condition systematically dealt with. As to the pathology of the condition, little need be said.

Dr. Thomas then proceeded to give a short sketch of all the cases of this kind of which he had been able to obtain any history, closing with a more complete account of one which had recently occurred in his own practice, and which had suggested the paper. The eighth case embodied Dr. Thomas' personal experience in dealing with this complication. Miss C——, thirty-eight years of age, a native of Canada, entered his service in the Woman's Hospital in November, 1880, on account of a large multilocular ovarian tumor, and on the sixth of that month she was submitted to operation. An incision about three and one-half inches in length was made in the median line, and the tumor was seen presenting a peculiar appearance, which arrested his hand just as he was about to plunge in the trocar and canula. He then enlarged the abdominal incision, and was led to suspect that the mass covering the tumor might be the bladder. He endeavored to settle this point by passing a long catheter, but the tumor pressed so firmly against the pubes that it could not be introduced beyond that point. Becoming convinced more and more that he had to deal with a case of extensive vesical adhesion, he tried to determine the points at which the bladder was attached to the tumor, but he was unable to do so, so completely did the bladder seem united with the tumor. It occurred to him that if he could tell exactly where the upward limits of the attached viscus were, he would be able to cut it away, and to accomplish this he decided to go directly through the anterior wall of the bladder, so that one or two fingers could be inserted. Such an incision was accordingly made, and he passed the index finger of the left hand into the bladder, and was able by so doing to learn exactly the extent of the viscus, and to cut down upon the tumor, severing the strong attachment. In this way, exposing with the finger or fingers, cutting down at the appropriate point, tearing adhesions after cutting, he soon freed the bladder entirely from its attachments. A great deal of hemorrhage followed, and quite a number of ligatures had to be applied to bleeding vessels. After this the trocar was plunged into the tumor, and it was removed in the usual way, its pedicle cut, ligated, and returned to the peritoneal cavity. Returning the bladder to the peritoneal cavity he employed Peaslee's needle, and closed the abdominal wound from above downward, as is ordinarily done in this city, and twisted the silver sutures employed until the wound was closed to the opening in the bladder. Having arrived at this point he passed the needle through the abdominal wall, then through one vesical wall, then through the other, and lastly through the opposite abdominal wall, and so continued to do until the whole opening in the bladder was traversed by sutures. The sutures were then twisted, care being taken to lift the bladder well up to the surface, and the operation was completed. A Sims' sigmoid catheter was kept in the bladder, the patient removed to bed, and the after-treatment conducted upon general principles. Convalescence was regular and rapid. At the end of three months the patient went back to Canada perfectly well.

With reference to diagnosis when this complication exists, Dr. Thomas believed it to be impossible to make a correct one before the abdominal incision was made. The operator must depend upon his own quickness of perception, and upon the careful examination of suspicious tissues by sight, touch, the tenaculum, and the scalpel. If the bladder be attached to the tumor extensively and closely, diagnosis by these means will generally prove difficult; if it be attached to the abdominal wall, it will be still more difficult. After the diagnosis is made, the adherent bladder should, if possible, be separated by digital detachment; if the attachments are so strong that they cannot be broken without danger of lacerating the bladder, he recommended making an incision in the anterior wall of the organ, introducing the index finger as a guide to its outer limits, and then cutting through the adhesions. After the anterior wall of the bladder has been incised, either by accident or intentionally, it seemed to him that the plan of clamping the lips of the incision between those of the abdominal wound promised much better results than that of sewing up the opening with sutures and returning the repaired viscus to the abdominal cavity.

The paper was discussed by Drs. Kimball, Noeggerath, Engelmann, Goodell, Emmet, and Drysdale.

Dr. T. A. Reamy, of Cincinnati, then read a paper, entitled:

### A CASE OF PARTIAL INVERSION OF THE UTERUS CAUSED BY A FIBROID POLYP.

It was accompanied by a specimen. The tumor at the time of the operation was found to be attached to the fundus to the extent of two inches, and at the time of its removal it weighed one and three-fourths pound. It measured five and one-half inches in its transverse diameter, and three inches from above below. It had no pedicle; it exhibited a cup-shaped depression at the point where it was dissected from the uterine wall. The patient was an unmarried lady, aged twenty-four years, who menstruated irregularly during the first six months of her menstrual life, but subsequently her periods were regular up to the age of twenty-one. From that time menstruation became more prolonged, and she suffered occasionally from metrorrhagia, and sometimes the vaginal discharge was irritating in character. On several occasions vaginal hemorrhage was profuse. One peculiarity in the case was, that Dr. Reamy was unable to obtain any evidence by physical exploration of cupping of the fundus. He supposed that he had detected the existence of a pedicle, however, before the operation, but at the time of the operation what was supposed to be a pedicle was demonstrated to be only an inverted portion of the uterus. The case was interesting as illustrating the difficulty of diagnosis, notwithstanding all the improved methods, and showed that there is danger of making the mistake of regarding an inverted portion of the uterus as the pedicle of a polypus. In the light of the present case he should hereafter be exceedingly

solicitous with regard to diagnosis, and in the least doubtful cases he should hesitate, and at once quarter the tumor with the scissors and clear up this doubtful point.

Dr. Barker, of New York, referred to a case which had a peculiar feature, namely, that when the tumor was delivered and the pedicle cut, just as the last part of the incision was completed, the uterus, which had been inverted by the operation, immediately replaced itself with an audible noise.

Dr. Goodell, of Philadelphia, thought that in these cases it was safer to proceed by drawing the tumor fully into view, for then the operator might be able to find a line of demarcation. He then referred to a case in which he removed a polypus about the size of a fetal head. It was necessary to make extensive lateral incisions into the perineum, but, despite that, it was torn extensively. When the tumor was delivered he found a line of demarcation, and in that instance the capsule was incised, and the tumor enucleated without the slightest difficulty. The perineum was closed with sutures, and the patient made a good recovery.

Dr. Byrne, of Brooklyn, had seen two cases precisely similar to that reported by Dr. Reamy; and he remarked that if there was any means of disposing of such masses more dangerous than another, it was the écraseur. He should prefer to dissect such masses piecemeal by any means rather than apply the chain. When there is any doubt as to whether there is a partial inversion of the fundus of the uterus, an important point is to return the mass before any tightening is made. With regard to the means employed for removing these masses, he had used only a heated wire.

The paper was also further discussed by Drs. Taylor and Emmet, Sims, Lusk, and Putnam-Jacobi, of New York. The discussion was closed by Dr. Reamy, who directed special attention to the fact that the partial inversion in his case could not have become complete, because of the inability of the tumor to escape through the rigid vulvar opening.

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Friday—Third Day—Afternoon Session.

The society was called to order at 3 P.M. by Dr. Campbell.

Dr. A. H. Smith, of Philadelphia, then read a paper on

### Axis Traction of the Obstetric Forceps.

How shall instrumental delivery be effected as nearly as possible according to the process of nature, with the least strain upon the tissues of the mother and the child, and with the least expenditure of strength upon the part of the operator? To accomplish this most effectually, the force employed must be exerted contrary to the line of resistance, therefore necessarily in the line of the pelvic axis. The mathematical argument of the question the author of the paper did not enter upon, because that had been so thoroughly studied and presented by other writers. For himself, he had settled the question that axis traction was the only proper method by which a child could be delivered with forceps, and he raised the question whether the ordinary forceps, well constructed, were not sufficient to do all that was required in this direction. There was no doubt but what the old teachers and writers on obstetrics recognized in their every day experience the necessity for axis traction, but none of them had given any suggestion in regard to the matter in their works. The first writer who had called attention to the subject was Ojeander, of Gottingen, in 1799, who speaks of it as being necessary, and describes the method by which it can be accomplished. Dr. Smith then proceeded to give the views of this old author, and gave a detailed description of his method. It was essential that pressure should be made downward upon the lock of the instrument in a line parallel with the axis of the superior strait, or the strait of that portion of the pelvis in which the head of the child is engaged, and at the same time make upward leverage with the other hand on the handles of the forceps. This was the principle enunciated by Ojeander, and it was that which Dr. Smith believed all obstetricians would adopt sooner or later. The same principle was recognized by Naegele in 1843, when he recommended the use of a fillet placed over the lock of the instrument, by which traction could be made downward. Dr. Smith spoke particularly of Tarnier's forceps, and remarked that he regarded them as exceedingly dangerous and complicated, although he had not used them upon the living subject. Dr. Smith then asked the question, Can axis traction be effected by any manœuvre with ordinary forceps? His answer was emphatically in the affirmative; and he said that he stood the humble advocate of the principle enunciated by Ojeander, and which could be formulated as follows: Place the palmar surface of one hand upon the lock, and the index finger of the same hand in contact with the head of the child; then make downward pressure with the same hand firmly fixed upon the lock, exactly in a line parallel with the plane of the axis, while, with the other hand upon the handle of the instrument, the pressure downward is antagonized by lifting upward, producing thereby a leverage. To accomplish delivery according to the principle enunciated, it is his practice to use the simplest ordinary obstetric forceps; and that which he specially recommended as best of all was the Davis forceps. He then illustrated upon the manikin with the long Davis forceps how a child could be delivered from the superior strait, and also how a child could be delivered with one hand with the Davis short forceps in accordance with the same principle, when only a slight degree of axis traction was necessary.

Dr. William T. Lusk, of New York, gave a demonstration of the use of Tarnier's forceps, and advocated their special applicability to cases in which the head of the child is at the brim of a moderately contracted pelvis, and the instrument must be used within the cavity of the uterus.

Dr. Barker, of New York, spoke of the value of Tarnier's forceps in a certain class of cases where the head is high up and prompt delivery is demanded.

Dr. Howard, of Baltimore, cited cases in which he had effected delivery with the greatest facility with Tarnier's forceps after other instruments had been used unsuccessfully.

Dr. Ellwood Wilson, of Philadelphia, was glad to hear that the Tarnier forceps should be discarded in a large class of cases—that is when the head is low down in the pelvis. Theoretically he did not regard them as in any way superior to the more ordinary instruments.

Dr. Thomas, of New York, indorsed the use of the Tarnier forceps for a certain class of cases, and regarded the instrument as an advance in the way of mechanical appliances for the relief of human suffering.

Dr. Taylor, of New York, thought that, if the instrument was guided by an intelligent hand, it mattered but little what form was employed.

Dr. Reamy, of Cincinnati, had used the Tarnier forceps, and yet was not willing to fully accept them. He thought that their use was admissible even less frequently than stated by Dr. Lusk.

The discussion was closed by Dr. Smith, who said that his paper was not an attack upon Tarnier's forceps, but one in which he simply attempted to prove that the old forceps were sufficient to do all that was required.

# Correspondence.

## A WORD FOR DR. BEARD.

To the Editor of The Medical Record.

Sir: I have read with much surprise and regret the rather intemperate letter of Dr. J. Crichton Browne in the *British Medical Journal* of August 27th, relative to the experiments in hypnotism by Dr. Beard before a medical audience at the Waterloo Hotel in London. The arguments used by the writer would apply equally well to vaccination, and, indeed, were so applied a hundred years ago to Jenner, when he was endeavoring to induce the medical profession of England to take more interest in the investigations he was conducting. Admitting that Dr. Beard failed in every one of his illustrations, the fact of such failure is no valid evidence against the truths which Dr. Beard has done so much to establish, and certainly gives no warrant for the insulting questions which Dr. Browne addresses to him at the conclusion of his letter. As these questions show the animus of Dr. Browne, and as they, at the same time, exhibit his absolute ignorance of the essential points of the inquiry, I propose, with your permission, to take upon myself the office of answering them.

And I may, in the outset, remind you and your readers that probably no one in this country has had more frequent occasion than have I, to differ with Dr. Beard. I have come in antagonism with him on so many different points, that I am quite sure I know with accuracy his character and mental methods. I have criticised him in debate and in written communications, and I have endeavored to deal him as effective blows as I could whenever I have had to controvert his views. He has always had the good sense to take my animadversions with kindness and in true scientific spirit, and I have never observed the slightest tendency in him to act dishonestly, unfairly, or in any other way dishonorably or in a manner unbecoming a gentleman and a scholar. I am no especial friend of his, but while there has been no intimacy between us, our personal relations have always been pleasant. I have not seen him for several months, and have had no written or other communication with him relative to the present matter. He has not the slightest idea that I am writing this letter. We have never worked together in hypnotism or in any other subject.

If he were at home I should probably leave him to defend himself, as he is well able to do, and as he certainly will in his own way, but I have been so greatly shocked by the unjust imputations that Dr. Browne has cast upon him, that I address you under a keen sense of justice to a gentleman who has been treated with gross unfairness where he had a right to expect kindness and consideration.

With this explanation of my relations with Dr. Beard, which I should not think it necessary to make if this letter were to be read wholly in this country, I proceed to take up Dr. Browne's questions *seriatim*.

*First.*—"Did he [Dr. Beard] know when he brought his 'trained subject' to this country that he was passing under an assumed name, and did he withhold the knowledge of that fact from several parties of medical men who had witnessed his experiments, and from the meeting of the 6th inst., until it was elicited by the rigorous cross-examination to which the 'trained subject' was submitted."

It was not of the slightest consequence whether the subject was or was not passing under an assumed name; neither was it of any moment, one way or the other, whether or not Dr. Beard knew the fact. If the subject was passing under any other name than his real one, and confided the fact to Dr. Beard, it was manifestly Dr. Beard's duty to keep the secret. Dr. Browne might as well find fault with Lord Lytton for writing under the assumed name of Owen Meredith, or with the many other literary persons of both sexes who have given their lucubrations to the world under other names than their own; or with those royal personages who, desiring to escape irksome ceremonies or attentions, drop, when they travel, their real names, and assume others less likely to attract notice.

As a matter affecting the scientific aspects of the case, the name of the individual subjected to experiment cannot, in my opinion, be of the least importance; neither can any reason the man may have had for concealing his real cognomen be a factor of the slightest consequence. He may have been modest, and desirous of escaping notoriety; he may have had "expectations" from an uncle who did not believe in hypnotism; he may have stolen a sheep, and have been afraid of the myrmidons of the law. There may be some occult influence in a man's name when he comes up for hypnotic experiments, and it may be necessary that he should have the one his sponsors in baptism gave him; but, with all due deference to Dr. Browne, I am not aware that such is really the fact. So far as I have been able to ascertain, Smith may call himself Jones without disturbing the conditions requisite in experimental hypnotism.

*Second.*—"Did he know that the trained subject had taken part in mesmeric and spiritualistic performances previously to his coming under his cognizance; and, if so, did he withhold the knowledge of that fact from the parties of medical men who were invited to witness his hypnotic achievements?"

Again, from what is perhaps a natural obtuseness, I fail to see what possible bearing this question has on the matter, even admitting that the "trained subject" had at some former period of his life "taken part in mesmeric and spiritualistic performances." It might as well be asked if he had ever belonged to a circus, or whether he was a Mormon or not.

As a matter of fact, however, I am very positive that the "trained subject" never did take "part in mesmeric and spiritualistic performances." He had been one of those called up from the audience on several occasions by a Mr. Carpenter, who was last winter giving public exhibitions of hypnotism. I have several times had him at my house for purposes of study, and once took him before the medical class of the University of New York as a subject

for the elucidation of some of the phenomena of hypnotism. As to mesmerism or spiritualism, he has never, I am quite sure, had anything to do with them. Dr. Beard knew that he had appeared in public, and he very naturally thought it a matter of no consequence one way or the other. Dr. Browne does not distinctly intimate by his word "withhold" that Dr. Beard wilfully falsified about the matter; but if he does mean to be so understood, I can only say that it will require much more than his insinuation to make those who know Dr. Beard believe that he is a liar.

*Third.*—"Had he never, till the exposure of the 6th instant took place, had any suspicion that any part of his 'trained subject's' performance was a mere piece of acting?"

This is a distinct intimation of fraud on Dr. Beard's part. If his subject was a mere actor, and Dr. Beard knew it, then undoubtedly he was guilty of deceit in attempting to palm him off as a veritable hypnotized person. But if Dr. Browne has any right to ask such a question, he can only base that right on actual knowledge of Dr. Beard's lack of credibility. If he has no such right, it is a grievous wrong for him to ask this question. I remember once, when a boy, hearing a rather unscrupulous lawyer undertake to break by cross-examination the force of some very damaging evidence which had been given against his client. The witness was a timid young man, but had given his testimony in chief clearly, and with evident regard for the sanctity of his oath. What, therefore, was his surprise to hear himself addressed: "Well, sir, please to remember that you are under oath. Now, sir, tell the court and the jury whether or not you were once in jail for stealing a watch." The young man arose, looked at the judge helplessly, and then burst into tears. The judge spoke to him kindly, very soon ascertained that there was no ground for the question, and then he administered a sharp rebuke to the limb of the law. The object of this latter individual was, however, very apparent. It was to confuse the witness and to prejudice the jury against him, and it looks to me very much as though Dr. Browne was actuated by a similar motive.

*Fourth.*—"Did he inform his audience on the 6th instant that he had exhibited his experiments before the Academy of Medical Science at New York, and was that statement promptly and emphatically contradicted by Dr. Adams, the Secretary of the Academy, who happened to be present?"

I think I may venture to answer the first part of this question emphatically in the negative, for the simple reason that there is no such society in New York as the "Academy of Medical Science." There is an "Academy of Medicine," and an "Academy of Sciences," and the meetings of the latter body are held in the hall belonging to the former, and Dr. Beard did exhibit his experiments before the "Academy of Sciences," in the hall of the "Academy of Medicine." Dr. Adams will certainly not contradict this statement. Dr. Browne is scarcely more exact in his knowledge of New York societies than some of his countrymen are of American geography.

*Fifth.*—"Was he invited, after the failure of his 'trained subject' to secure confidence, to join the meeting in expressing satisfaction that a gross case of deception had been exposed, and did he refrain from making any response to that appeal?"

If he was so invited, and declined to accede to the request, the idea that would most readily occur to non-prejudiced persons would be that he differed with Dr. Browne and the other gentlemen present relative to the conclusions at which they had arrived. Dr. Beard knows more about the subject of hypnotism than all the fifty medical gentlemen at the meeting put together. He has studied it in all its relations; has performed a great many original experiments to elucidate its features; has constantly been on guard to avoid being imposed upon; has written and spoken upon the subject dozens of times; and has strong convictions in regard to it, which spring, not from what others have said, but from what he has found out for himself. To expect him, therefore, even admitting that his "trained subject" failed, to renounce, on the spur of the moment, views that had been formed from the investigations of many years, was, I humbly submit, slightly preposterous, and his refusal to do so is the best possible evidence of his honesty and sincerity. For nothing would have been easier for him than to have made a scapegoat of his fraudulent "trained subject," and so have escaped with the commendations of the whole meeting on his artlessness and devotion to the true interests of science. Whether the "trained subject" was or was not a fraud at the Waterloo Hotel meeting, it is very evident that Dr. Beard believed in his integrity; otherwise he would have consulted his own interest by joining Dr. Browne and his colleagues in denouncing the cheat of which he himself was the chief subject.

As Dr. Beard very properly says in the London *Times*, the moral character of the hypnotized individual is no factor in the case. All that is requisite is a man or woman of some kind. The person whom Dr. Beard took with him has stood many tests which the most intensely conscientious and moral man would not have been able to stand had he been a fraud. I have myself subjected him to such tests, and I have cut, and pricked, and burnt, and faradized others while they were in the hypnoptic state, and they have not winced. I have seen the man in whom Dr. Beard, before the Academy of Sciences, slowly burnt a deep hole with a red-hot iron, and whose hand was sore from an open ulcer for over a month. It is no wonder, therefore, that these people shrink from such experiments, even though they suffer no pain at the time they are performed.

It is quite evident to me that Dr. Browne went to the meeting with preconceived views, to which he was determined to adhere, and with an overpowering intention to bring Dr. Beard to grief. For the time being he appears to have succeeded, but his triumph will not be of long duration. History repeats itself. Not many years ago Mr. Braid, of Manchester, discovered the true nature of what was called mesmerism. He wrote an elaborate paper on the subject, which he wished to read before the British Medical Association. Permission, however, was refused, and Mr. Braid was denounced as being no better than he should be. He lives, however, to see his views accepted by all intelligent inquirers into the subject. Doubtless Dr. Beard will enjoy a like experience, except, perhaps, in some few minor points, which greater study on his part will elucidate. At any rate, he will quite certainly not be overwhelmed by such attacks as that of Dr. Browne.

WILLIAM A. HAMMOND.

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AN OUTBREAK OF SPLENIC FEVER has occurred recently among the cattle at Lincoln, Nebraska, according to our correspondent, Dr. W. A. Thomas, of that place.

## ARMY NEWS.

*Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from October 2, 1881, to October 8, 1881.*

MURRAY, ROBERT, Colonel and Surgeon, Medical Director Mil. Div. of the Missouri. Granted leave of absence for two months. S. O. 100, Mil. Div. of the Missouri, October 5, 1881.

BYRNE, C. C., Major and Surgeon. To proceed from Wilcox to Camp Thomas, A. T., and report to the commanding officer for duty in the field. Field-orders No. 4, Dept. of Arizona, September 9, 1881.

CLEARY, P. J. A., Capt. and Asst. Surgeon. Granted leave of absence for six months on surgeon's certificate of disability, with permission to apply for six months' extension, if necessary. S. O. 224, A. G. O., October 4, 1881.

KOERPER, E. A., Capt. and Asst. Surgeon. Now awaiting orders at Philadelphia, Pa., to report in person to the commanding general Dept. of the East for assignment to duty. S. O. 222, A. G. O., October 1, 1881.

KING, WM. H., Capt. and Asst. Surgeon. To proceed without delay to Fort Trumbull, Conn., and report to the commanding officer for temporary duty. S. O. 176, Dept. of the East, October 3, 1881.

O'REILLY, R. M., Capt. and Asst. Surgeon. Granted leave of absence for six months from December 1, 1881, on surgeon's certificate of disability. S. O. 225, A. G. O., October 5, 1881.

MAUS, L. M., Capt. and Asst. Surgeon. Granted leave of absence for four months. S. O. 222, C. S., A. G. O.

APPEL, D. M., Capt. and Asst. Surgeon. Relieved from duty at Fort Supply, I. T., and assigned to duty at Fort Elliot, Texas. S. O. 201, Dept. of Missouri, October 4, 1881.

STRONG, N., 1st Lieut. and Asst. Surgeon. When relieved by Asst. Surgeon Shannon from duty at Ft. Thornburgh, U. T., assigned to temporary duty with troops repairing road between Park City and Fort Thornburgh, U. T. S. O. 102, Dept. of the Platte, October 4, 1881.

## Medical Items and News.

CONTAGIOUS DISEASES — WEEKLY STATEMENT. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending October 8, 1881.

| Week Ending | Typhus Fever. | Typhoid Fever. | Scarlet Fever. | Cerebro spinal Meningitis. | Measles. | Diphtheria. | Small-pox. | Yellow Fever. |
|---|---|---|---|---|---|---|---|---|
| Oct. 1, 1881. | 1 | 30 | 76 | 7 | 9 | 90 | 8 | 0 |
| Oct. 8, 1881. | 0 | 18 | 60 | 3 | 10 | 76 | 11 | 0 |

PRESIDENT GARFIELD'S TEMPERATURE.—On page 398, Dr. Bliss's report, under date of September 19th, the temperature of the President was 100.8° F., instead of 108.8° as misprinted.

THE CLIMAX OF THE ANTISEPTIC SYSTEM.—At the most recent duel the adversaries were about to cross swords, when a voice called upon them to stop. It was that of the surgeon in attendance, who, imbued with modern ideas, took from his pocket a bottle of carbolic acid (1 to 20) and carefully moistened the ends of the blades therewith. He then exclaimed, with the air of a man who had done his duty, "Proceed now, gentlemen, you may kill each other, but at all events you are safe from purulent infection." —*Lyon Medical.*

THE DEATH OF DR. WILLIAM WARREN GREENE, of Portland, who was a delegate to the International Medical Congress, occurred at sea, while on his return voyage. He was a leading physician of Portland, confessedly one of the ablest surgeons in Maine, and one of the most skilful in the country. He was a graduate of the Ann Arbor Medical College, and for a time was connected with the Long Island College. Since 1866 he was at Bowdoin College, where his clinic gave him fame very early. He was President of the Maine Medical Association last year. In age he was a little over fifty years.

THE DEFLECTION OF THE BULLET.—A correspondent writes that the remarkable deflection of the bullet in the body of the late President is explicable on the theory that he was inclining his body to the left, as it is very likely he was doing, when struck at the second fire. A strong inclination of the body toward the left would be attended with a convexity of the spinal column toward the right, and a rotation of the bodies of the vertebræ still further toward the right, which may readily be believed to have brought the lateral face of the body of the first lumbar vertebra nearly at right angles with the direction of the bullet as it entered the body.

A NATIONAL CATTLE COMMISSION.—At a meeting of the American Institute Farmers' Club, in this city, on September 13th, Dr. A. H. Heath, presiding, the following resolutions were adopted:

*Resolved*, That in our judgment the appointment of a permanent United States commission to protect these most valuable manure-producing animals should be made. We therefore urge on the Commissioner of Agriculture, and upon every member of Congress, the necessity of a law to furnish the protection needed, with ample means and powers to enhance so vital an element of our national prosperity.

THE ANNUAL REPORT OF THE SUPERVISING SURGEON-GENERAL OF THE MARINE HOSPITAL SERVICE, for the fiscal year ended June 30th, shows that during the year 32,610 sailors received relief at the different hospitals and dispensaries, and 17 incurables received transportation to their homes. An increase in the number of patients is shown over last year of 7,750. In addition to the relief furnished, 305 seamen of the Revenue Marine Service have been examined preliminary to shipment, 4,384 pilots have been examined for color-blindness (of whom 116 were found color-blind), and 57 seamen were physically examined for the Light-house and Merchant Marine services. "No objection," the report says, "is now made to the examinations for color-blindness, the pilots themselves being generally convinced of its utility." The receipts for the year were $381,000 and the expenses $402,000. The expenses are a few hundred dollars less than last year, notwithstanding the fact that the number of patients has increased more than 7,000.

# Original Lectures.

## RUDOLF VIRCHOW.

AN ADDRESS, INTRODUCTORY TO THE COURSE OF LECTURES OF THE TERM, 1881–1882.*

BY A. JACOBI, M.D.,

CLINICAL PROFESSOR OF DISEASES OF CHILDREN.

*Mr. President, Gentlemen of the Faculty, Fellow-Practitioners, and Fellow-Students*—The bust exhibited here, and the portrait shown, are those of Rudolf Virchow. His name is familiar to all. His renown as a great scientist is older than probably any student in this hall, of as long duration as the life of many a practitioner of great skill and deserved reputation, and has been firmly established so long as to have accompanied the oldest of us through the best and most efficient part of our career. Him I selected for the subject of our conversation this evening. In my opinion there is nothing we can learn so much from as from the life of a great man. If that man be dead, his biography is a source of valuable instruction and admiring appreciation; if he be among the living, and known not to have spent a day of his life except in the service of science and mankind, he is deserving of being extolled to the young—and old too—as a praiseworthy example. And if he can be shown to unite with the accomplishments of a savan the traits of genius, a universality of interests, and the beauties of a manly and refined nature; and further, if it can be demonstrated that no man in old or modern time crowded more successful scientific work into one lifetime, that man ought to stand out before the eyes of the young man entering upon the study of medicine as his guiding-star, as his ideal. For an ideal it is which the young want and require. Fortunate are those who look for theirs among the best and most perfect.

Rudolf Virchow was born on October 13, 1821, in a little Pomeranian town—Schivelbein—in Northern Germany. In 1843 he graduated in medicine at the University of Berlin. In 1846 he was made prosector of the Charité Hospital, and controlled in that position the whole anatomical material of that great institution. His facilities he utilized at once in delivering courses of lectures on the subject of pathological anatomy. In 1847 he was appointed a regular lecturer in the University. In the same year, together with Reinhardt, who died in 1852, he founded his *Archiv for Pathological Anatomy and Physiology and for Clinical Medicine*, which has since completed its eighty-fifth volume.

In 1848 the Government sent him to Upper Silesia to study the typhus fever begotten by the misery and starvation of a vast population. His report was a masterpiece, containing close observations both of medical and social facts, highly valued by the profession, and, like his later book on the misery in the Spessart Mountains, by those in power and responsibility.

In 1849, together with Leubuscher, who also died young and too soon, like Reinhardt, he edited the *Medical Reform*. The ideas proclaimed by him, and his participation in the liberal tendencies of the revolutionary movement of 1848 were disliked by the Government. He was dismissed from his public positions. But the medical societies of the city were so unanimous in their efforts to retain him that he was reinstalled; *for there is, after all,* ONE *force* more powerful and influential than swords and cartridges, even in soldier-stricken Germany, viz., public opinion. Still he did not remain long in Berlin, but accepted the Chair of Pathological Anatomy in the University of Würzburg, which he held until 1856, when he returned to Berlin in the same capacity.

Before he left Würzburg, he published his "Collection of Contributions to Scientific Medicine" (Frankfort-on-the-Main, 1856). His celebrated papers on "The Movement in Favor of Unity in Scientific Medicine," first published in 1849, head the list. I shall simply mention the titles of the rest in order to recall to the older gentlemen in this audience the great revolutions in physiological and pathological knowledge which have taken place in our lifetime. There are his essays on "The Physical and Chemical Properties," the "Metamorphosis," the "Origin and the Coagulation of Fibrine," all of them written in 1845 and after. There are his celebrated papers on "White Blood-Corpuscles" and "Leukæmia," dated 1845 and after, and his five hundred pages on "Thrombosis and Embolism," "Inflammations of Blood-Vessels," and "Septic Infection," dated from 1846 to 1853; also "Contributions to Gynecology," with papers on the "Puerperal Condition" (1847); the "Formation of the Placenta" (1853); "Uterine Flexions" (1850); "Prolapse of the Uterus" (1846); and "Extra-Uterine Pregnancy" (1850–56); on the "Elimination of Uric Acid in the Fœtus and Newly Born" (1846); "Congenital Hydronephrosis" (1854); and on "Apoplexy in the Newly Born (1850); "Contributions to the Pathology of the Skull and Brain," which contain papers on the "Granular Appearance of the Walls of Cerebral Ventricles" (1846); on "Cretinism" (1851 and 1852); on the "Development of Cretinism" and "Cranial Deformities," on the "New Formation of Gray Cerebral Substance" (1851); and on "Senile Involution of Flat Bones" (1852); finally, a "Paper on Cancroids and Papillomata" (1850).

About the same time he was active with other problems. The "Collection of Treatises connected with State Medicine and Epidemiology" (Berlin, 1879), contain a number of papers written at that time. The two volumes treat in scores of different articles, written between 1848 and 1879, on subjects connected with public hygiene, reform of medicine, epidemics and endemics, statistics of morbility and mortality, hospitals, military medicine, cleaning of cities, school hygiene, criminal law, and forensic medicine.

However, when Virchow's name is mentioned, it is customary to think of him first as a great discoverer in the field of pathological anatomy.

Pathological anatomy is that part of pathology which treats of the origin, development, and nature of such changes in the solid and liquid parts of the body as constitute disease. The changes most thoroughly and profoundly studied, were, in the beginning, the gross and macroscopical, afterward the morphological ones, inclusive or exclusive of pathological chemistry, which is still younger than pathological anatomy proper. If I speak of origin, development, and nature of changes, I characterize the science as it is to-day. For neither Theophil Bonetus, who, in 1675, collected the three thousand post-mortem examinations recorded for two thou-

* Delivered in the lecture-room of the College of Physicians and Surgeons, New York, October, 3, 1881.

sand years past, nor Morgagni, in his celebrated book on "The Seats and Causes of Diseases studied Anatomically" (1761), nor Bichat (1801), with his attempts at studying the diseased tissues, nor Aloys Vetter (1803), in his "Aphorisms from Pathological Anatomy," nor the first prosector, Biermayer, of the Allgemeine Krankenhaus, in Vienna—founded by Emperor Joseph, *Saluti et Solatio*—nor his successor Wagner, considered anything but the completed changes of the organs. Wagner's successor in the place, which was founded on the 26th of June, 1812, was Carl Rokitanski.

To estimate at its full value the influence exerted by *him*, let us consider the facilities for diagnosis at those times by choosing an example from the large class of fevers. There were catarrhal fevers, with the symptoms of a slight catarrh prevailing; when muscles or joints ached, the fever was catarrho-rheumatic or rheumatic; when the gastric symptoms prevailed, it was gastro-catarrhal or gastro-rheumatic; with a yellow tongue and pain in the right epigastrium, it was bilious, or gastro-bilious, or bilious-rheumatic; with prevailing headache or delirium, it was gastric-nervous, or bilio-nervous-rheumatic. There was no end of complication of terms, just as little as there can be an end to the complication of symptoms. That was a time in which nothing better could be done. Most diseases were estimated from the nature of either the subjective or the most superficial objective symptoms of the pulse, the tongue, etc. It was exactly the period in which even the Hahnemannian system, school, sect, was just as easy of existence as any other system, school, sect, or self-styled scientific silliness. Rokitanski's great function was to find, as Andral had done shortly before him—to proclaim louder and more effectually than Andral ever succeeded in doing, that disease meant a change of structure and not of sensations and symptoms, and to point out, as Virchow happily expresses it, "a number of natural and easily recognizable types of disease." If I call your attention, by a simple example, to typhoid fever, which Rokitanski installed as an anatomical entity, instead of the nervous, and bilio-nervous, and gastric, and what-not fevers, you have at once an instance of the blessing conveyed by one great man on both the anatomist and the physician. He proved that the most various symptoms can depend on the very same or similar anatomical changes, and could prove that sometimes the same or similar symptoms might depend on different conditions. Thus, the similarity of many symptoms in typhoid fever and acute tuberculosis gave rise to many errors, many studies, until Skoda's skill and genius solved the grave problem of differential diagnosis. To treat of Rokitanski's merits fully is not appropriate to-night. His place in the history of medicine is secure. But still he will not appear—nobody will—as the last and unimpeachable judge in all matters anatomical and histological. On the contrary, his labors, as laid down in the first volume of his pathological anatomy, were undertaken, and in part finished, during the time in which Schwann first found all animal tissue to consist of cells. Thus, the histology even in his *second* volume (1846) is of inferior character. This is the first defect. His second error and that of his school is the assumption of humoral pathology in a somewhat new shape. The mixture (crasis) of the blood, engendered by the chemical examination of the blood by French authors such as Andral and Gavarret, was considered the main cause of many general, constitutional, or feverish diseases. The third great mistake of Rokitanski was this, that he felt convinced, and acted upon the conviction, that *his* special branch of pathology contained everything worth knowing in medicine. Remember, however, *he* lived in the dissecting-room; remember that from November 1, 1817, to October 8, 1878, seventy thousand and eighty-seven post-mortem examinations were recorded in Vienna. If you do, you will understand, and, though you deplore it, pardon the one-sidedness with which he considered that his efforts were everything required, not only for the theory, but for the practice of medicine. He found organs destroyed, or changed to such an extent that life was incompatible with that destruction or those changes. Where was the remedy which could have restored to health the organ which had produced death. *Non possumus.* Impossible. Thus he became the intellectual head of the so-called school of Vienna, which, while it increased rapidly the anatomical knowledge and differential diagnosis of the conditions of diseased organs, threw up its hands in despair when the living patient clamored for relief and recovery.

Thus, the three great defects or errors of Rokitanski and his school were: ignorance and regardlessness of histology, the clinging to humoral pathology, and the therapeutical nihilism originating in Vienna and infecting a large portion of the practitioners of the world. Let us now turn to Virchow to discover how he dealt with these defects, errors, and difficulties.

Before and about the time when Rokitanski worked and wrote, and Virchow prepared to commence his career, medical science in Germany was by no means independent and self governing. There was no country in Europe in which observation and regard for facts, and facts only, was less esteemed than in Germany. England had enjoyed a predilection for pathological anatomy since John Hunter; Carswell had studied the elementary forms of morbid processes in his pathological anatomy (1833); physiologists such as Bell and Marshall Hall had added to the stock of positive knowledge; great physicians, such as Bright, Abercrombie, Hope, Williams, and afterward Stokes, enriched special fields of pathology. France lived through its most brilliant medical career. Never before, or after, have more illustrious, sober, and painstaking men worked in the same field with more success than those who sustained French medicine up to 1840 in its high rank. Bichat, Bayle, Dupuytren, Laennec, Cruveilhier, Rostan, Chomel, Gendrin, Bretonneau, Andral, Louis, Billard, Piorry, Magendie, and many others, placed French medical science far above the level of any other country. Meanwhile, German medicine was controlled by what was called philosophy, and mainly by the so-called philosophy of Nature. The only great philosopher of the end of the eighteenth century was no longer appreciated or understood. Immanuel Kant, with his clear intellect, his unbiassed judgment, his mathematical training and scientific method, was forgotten or misinterpreted. One hundred years ago this year, his "Criticism of Pure Reason" made its appearance. This very year the orthodox churches of all sorts of denominations have claimed this scion of natural facts, of mathematical problems, this personification of pure reason and unfettered logic, as their own, in this very city of ours. We need not wonder, then, that neither Fichte, nor Schelling, nor Hegel, nor even Hegel's greatest pupil, Feuerbach, followed the road opened by the unsophisticated, shrewd, far-seeing,

untrammelled genius of Kant. Under the influence of the German philosophy of that whole period, after Kant, which has been so unintelligible that it was called profound, and so abstruse that it has procured for the whole German nation the title of the people of thinkers, everything in medicine not accepted because it was old and traditional was a matter of speculation *a priori* only. The bases of speculation were premises construed by reasoning not founded on facts; by theories not built on experience, far less on experimentation. Both facts and experimentation were claimed by Virchow as the only admissible foundations of scientific medicine, no matter how long it would take to collect them or to establish it. At the same time he was perfectly well aware that the literature of the last two thousand years contained a great many available points; nobody ever was more honest in collecting material and giving credit. Every one of his books, orations, speeches, essays, lectures, teems with literature carefully collected and critically judged, and proves his appreciation of the necessity of historical studies. As the organism of the human body cannot be understood without the knowledge of its gradual development, thus the present condition of medicine, or the present condition of a doctrine, cannot be appreciated without the history of the labors spent on its gradual completion, no matter whether it was obtained by uniform progress, or, what happens much more frequently, by alternations of progress and retarding relapses. For the history of human progress is, in part, the history of errors.

The young student cannot possibly imagine, without historical studies, the condition of our knowledge as late as thirty or forty years ago. Many of the distinguished men here assembled—many of your celebrated teachers on whose lips hang your eager eyes, and whose every word is cautiously remembered by willing ears, lived and studied in a time when capillaries were not known to be true vessels with a wall of their own, when the distribution of the peripheric nerves was not even believed by the most poetical imaginations, when the action of organic muscular fibres, with its universal influence on the function of every organ, was not deemed a possibility, and trophic nerves were not even dreamed of.

The first opposition to the influence on medicine of the so-called philosophy of nature, was made by "rational" medicine and the "physiological" school of medicine. It was formed by such learned and ingenious men as Wunderlich and Roser; it controlled the minds and influenced the action of many good men in the profession a number of years. At that time, and long after, pathology was acknowledged as only a part of physiology. At all events it had no independence of its own. Pathology was an appendage of the natural sciences then recognized. *The emancipation of pathology*, its rise into the number of independent sciences, with, *in its turn*, its fertilization of anatomy and physiology, dates from April, 1847, when Virchow wrote on the *standpoints in scientific medicine*, in the first volume of the *Archiv for Pathological Anatomy and Physiology and for Clinical Medicine*. At that time he wrote as follows:

"We ought not to deceive ourselves or each other in regard to the present condition of medical science. Unmistakably, medical men are sick of the large number of new hypothetical systems which are thrown aside as rubbish only to be replaced by similar ones. We shall soon perceive that observation and experiments only have a permanent value. Then, not as the outgrowth of personal *enthusiasm*, but as the result *of the labors of many close investigators*, pathological physiology will find its sphere. It will prove the fortress of scientific medicine, the outworks of which are pathological anatomy and clinical research."

Five years afterward he could say: "The scientific method of medical research is firmly established. It is not my merit to have discovered it. Without me it would have been found, and the new trail would have been followed. But I trust that the battle against the existing mixture of arbitrary rationalism and gross empiricism, fought by the *Archiv*, in which I aided by the introduction of genetic investigation, must have contributed much in procuring new aims for pathology."

You remember that, but little more than forty years ago, Schleiden discovered the cell to be the elementary basis of the vegetable tissue. Schwann recognized the same element as the foundation of the structure of all animal tissues. A long series of observations and experiments convinced Virchow of the continuous propagation and proliferation of cells within the individual. After five years of hesitation he published the first preparation for, or introduction to, his cellular pathology, in the fourth volume of his *Archiv*, and another contribution to the same, three years afterward, in the eighth volume.

He proved, and all our experience proves, that life requires a special formation to manifest itself, and certain conglomerates of substance. These conglomerates are the cells and their compounds. Like the individual in its totality, the cell in its turn is the physical body with which the action of mechanical substance is connected, and within which the latter can retain its functions which alone justify the name of "life." In the normal state of this conglomerate it is mechanical substance which acts, and acts only on chemical and physical principles.

The pathological process within the elements, according to cellular pathology, is as follows: a living cell is acted upon by something outside. The latter works a mechanical or chemical change in the cell. This mechanical or chemical change is disorder or disease. If an action or reaction take place in the cell through that cause, the change is called irritation, the cause irritant. If no reaction take place, there is a mere lesion, or perhaps a paralysis. The same cause may act as either an irritant or a simple lesion, or be a source of paralysis. The difference of the results depends on a difference in the condition of different cells. This difference in the condition of the cell is, or rather forms, its predisposition.

Cellular pathology was intended to demonstrate the cellular nature of all vital processes, both the physiological and pathological. Thus, in contradistinction to the humoral and "solidar" (or neuristic) theories handed down from almost prehistoric times, the unity of life in everything organic was claimed as a demonstrable fact, and the minute mechanics and chemistry of the cell were placed in victorious opposition to the course of explanations based on the mechanics and chemistry of the compound mass. With the improved instruments, and by means of the newly established principle, "all medicine got nearer the natural processes by at least three hundred times" (Virchow).

*All medicine;* for it is a peculiarity in all of Virchow's researches and conclusions, that none is without its immediate results on the theory and practice of medicine, even on diagnosis.

Diagnostic powers have increased with the growth of positive knowledge. Diseases become recognized as local anomalies in the same degree that the old humoral pathology, first objected to by Vesal and Paracelsus, was finally undermined in its position as the general explainer of physical disorders. One hundred years ago the diagnosis of most local diseases was a very imperfect one. A fever with dyspnœa, with cough or without it, was a thoracic fever—a pulmonary fever. When Morgagni had published his "Seat and Causes of Diseases," and Laennec and Dupuytren had developed more proficient means of diagnosis, the disease was sought for and found in organs—even in parts of organs. A pleurisy was diagnosed from a pneumonia, a pneumonia of the right from that of the left side, of the upper from that of the lower lobes. Bichat, though he could not prove it, yet insisted even upon the necessity of diagnosing the diseases of the several constituent tissues.

Virchow's cellular pathology is claimed by him as the consistent execution of the principles and postulates of his predecessors. The localization of disease is taken as a necessity. It is looked for in the smallest composing elements—the cells, for there is no organ but consists of cells or cell-production. Blastoderma, protoplasma, are not characterized as something independent, as organisms by themselves, no matter whether they be considered to be the changed condition from the blood, as the older writers would have it, or the shapeless, amorphous mass of the recent authors. The smallest organism we know of, and which has an independent action and a life of its own, changing under the influence of external irritants, is the cell. To fix the disease in a cell, or a group of cells, is the finest localization possible. As a rule, we have to deal with a group of cells, like the chemist, who works with and on a group of atoms.

But not only does the practitioner enjoy the benefit of a diagnosis and prognosis based upon the knowledge of local organic alterations, but his therapeutics also have undergone important changes. They, again, are mostly due to more correct observations, and mainly to the experimental method which has been generally adopted these ten or fifteen years, in the study of the effects of medicines on the animal system or organs or tissues. Therapeutics have become more and more local. The hypodermic method has taught us that the local effect of a narcotic is so much more distinct when the remedy is applied to the affected part. Strychnia, injected into a paralyzed limb, a deficient sphincter ani, or near an anæmic amblyopic retina, is much more powerful than when given internally. Relations between certain organs and certain remedies have been discovered. Quinine has been found to affect white blood-corpuscles and blood-vessel nerves; ergotin has its specific action on unstriped muscular fibres; atropia on the intestinal ganglia and on the iris; eserine, calabar are justly credited with local effects. We have remedies with specific effects on the muscle, such as salicylic acid; on the nerves, on the brain or spinal cord; we use the faradic and continuous currents for local purposes; influence local changes, pains, anomalous functions by cold, heat, moisture, contra-irritants; even remedies known for their general effects alone are used for the purpose of reaching local changes. For not only is mercurial plaster used for the purpose of dissolving local indurations, mercury is given internally for the purpose of influencing local gummata; iodine in order to remove local periosteal swellings, or chronic local adenitis. By becoming experimental, therapeutics have become sound, not only for the benefit and in the interest of diseases, but also of surgical interferences. These have never been rendered so safe and innocuous by all the accumulated experience of justly celebrated operators, of justly condemned wars, as by the theoretical reasoning of a living English surgeon, whose name is on the blessing lips of every modern physician.

But cellular pathology does not claim to be a *system* which contains everything, *but a principle*. Thus far, every new discovery of pathological facts has found a ready explanation by it and its methods. The changes worked in and by white blood-cells, the transmutation of epithelial cells into benign results or malignant growths, the influences, real or imaginary, worked by bacteria, have but strengthened its plausibility. If there be a pathological entity, this entity is the cells in a state of disease. Despite the multifariousness of the vital processes in different organs, life is—no matter whether the cell-group, the organ, the individual, well or sick, are concerned—one and the same, and depending on the same and uniform action of the independent cell.*

The three volumes on *morbid tumors*, published between 1863 and 1867, are a work which might have filled the lifetime of a great student and thorough pathologist, and perpetuated his name in the annals of medicine. Never before was sarcoma treated of so extensively and monographically. Never before was the whole literature of the subject searched with so much knowledge and conscientiousness. The etiology, development, and prognosis of morbid tumors were at last intelligibly discussed on the principles of cellular pathology, while even therapeutics were not neglected. The chapters on scrofulosis, tuberculosis, and syphilis, though the subjects were treated of in many, perhaps too many publications previously, exhibit new researches, new results on every page. The congenital deformities are always described in relation to the embryonic development of the parts, partly as arrests of development, partly as the results of inflammatory action. And not the least beauty of the great work is the fact that the material belonging to medicine and surgery, superficial and deep-seated organs, ophthalmology, dermatology, and gynæcology, is treated of under common and uniform points of view. Thus, as Virchow has proclaimed the unity of life under the most manifold manifestations, he facilitates the knowledge that, after all, the specializing tendencies of modern medicine, natural and necessary though they be to a certain extent, admit of correction and limitation.

The "Investigations on the Development of the Basis Cranii in its Healthy and Morbid Condition, and its Influence on the Shape of the Skull, the Formation of the Face and the Structure of the Brain" (Berlin, 1857), are, as it were, a continuation of the essays alluded to among the contents of the "Collection of Treatises." They have been fruitful for anatomy, psychology, and pathology. The two works have yielded the anatomical basis of my own paper on the pathological and diagnostic importance of the premature closure of the cranial sutures and fontanel (1858 and 1859) and of many more important additions to the literature of science. For himself, these studies have been of the greatest importance also. On the

* See Virchow on the Essence and Causes of Disease, in his Archiv vol. lxxix.

base created by him, his main predecessors in this field being Leuret and Gratiolet, and Huschke, he has merged into his anthropological studies, foremost among which is his book on "Some Cranial Peculiarities of Lower Human Races" (1875), and "Contributions to the Physical Anthropology of the Germans" (1876). Before these publications, however, saw the light, his cranial studies led him into palæontology and archæology. From the beginning of the existence of the Anthropological and Archæological Society of Germany, he was a member—in the second year its president. Without being able to follow him in all these studies, I lay stress only on the fact that they are by no means adverse or foreign to strictly anatomical and medical studies. The connecting link is sufficiently clear, though the literary notes I have given must unfortunately be but too short. His paper on prehistoric tombs, and many others, in part published in an anthropological journal, prove at the same time his varied interests and his mental powers, enabling him to combine such a variety of studies and occupations.

Still, his main labors have been spent on pathology and subjects connected with pathological anatomy. His papers on thrombosis and embolism alone would have immortalized him. They acted like a new revelation, by which a host of pathological occurrences and processes, formerly not understood, became intelligible.

The number of his other contributions to pathology is large. I remind you of his investigations on caseous and tubercular degeneration, and on diphtheria. What our Dr. Billings lately said in his London discourse is certainly true. For pathology we do look to Germany—he might well have said, to Virchow and his pupils. Never can too much credit be given to him—never ought he to have been compelled to express himself as follows:

"For years," he said lately, "I became accustomed to the fact that others utilize my labors. I complained of that in 1856, and have more reason now. Many pupils who learned the new results of my researches in my lectures have not always remained conscious of the source of their knowledge, and thus they have not always been in a condition to give me due credit in their publications. I do not propose to attribute that to ill-will in every case. We all live in motion and turmoil, and are the recipients of much which, without recalling the giver, we consider our own. Whoever has gathered around himself many pupils through many years, must expect that his own thoughts may return to him from afar."—Preface to *Ges. Abh.*, etc. (Berl., 1879).

The first university establishing a full chair of pathological anatomy in Germany—Vienna not counted—was Würzburg. There and in Berlin he taught hundreds and thousands, and educated the men who were to occupy the chairs of pathological anatomy in the other universities. Rudolph Mayer, Rindfleisch, Recklinghausen, Bezold, Cohnheim, Grove, Klebs, Ponfick, and many others owe him their opportunities and their places. Since, and through him, the appearance and working of German universities have greatly changed. Through this whole long period he has worked steadily, and always more efficiently than noisily. His not rushing into print with every little observation has now and then raised the doubts of some of his former pupils, who would be gladly considered his peers, whether he worked at all. This doubt has even been expressed publicly, and, in regard to some points, he has been attacked because of his alleged want of progressiveness and thoroughness. Such is the case, for instance, in regard to the modern parasite theories of infectious diseases, and to Darwinism. Let us inquire.

Berzelius and Liebig developed the theory of chemical catalysis to such an extent that not only was organic chemistry enriched by it to a considerable degree, but the symptoms of infection (not, however, those of contagion) found a satisfactory explanation. Still, at that time, in 1854, Virchow's essay, in the first volume of his Pathology and Therapeutics, on parasitic plants, gives sufficient proof of his interest in and knowledge of the subject. A special paper of his, in the ninth volume of his *Archiv*, in 1856, demonstrated the botanical nature and classification of some forms of parasites to which an important part in nosology was to be attributed. At that time it was when he invented and first used the term of Mykosis, which has been generally accepted since.

Davaine in 1854, and Pollender, in 1855, found in anthrax the parasite which has since been given the name of Bacterium anthracis Cohn. Brauell's papers on the same subject appeared in the eleventh and fourteenth volumes of the *Archiv*, and were the forerunners of an immense literature which has since, in the *Archiv*, other journals, and independent publications, assumed vast proportions. In Virchow's hospital division it was, where Obermeier, in 1873, found the spirochæte in the blood of relapsing fever. Again, it was Virchow who, when travelling in Norway at the request of the Swedish Government, for the purpose of studying lepra, insisted upon the necessity of paying more attention to the dietetic basis of the disease, particularly to the fish eaten in large quantities. He has been severely reproached for not finding the bacillus lepræ, which, after the preparatory labors of four years, has been finally discovered by Armauer Hansen, twenty years afterward.* That very reproach proves that everybody expects everything of him, and sometimes too much. Now, the discovery of every sort of possible and impossible parasites is the regular order of the day, and has been for many years. On this side of the great water it has been Salisbury who has sharpened the appetite for numerous and uninterrupted discoveries of the kind. Every disease, every microscopic lens, every craving for notoriety, swelled the supply; endless was the number of new names, never was Greek dictionary more diligently consulted. Among the last diseases, in which Klebs and Cruvelli claim to have found vegetable parasites which at once are taken to be the very causes of the same diseases, are intermittent fever and rheumatism. Here again, Virchow has been reproached for not publicly accepting the bacilli of malaria and rheumatism. The very men who insist upon Virchow's incompetency in regard to what they consider as the only basis of the nosology of infectious and epidemic or endemic disease, still appear to address every paper they write, every little observation they publish, to him. He is expected to repeat the experiments at once, appreciate and praise the results, and come to the same conclusions. If he does not, he is incompetent. One of his best known, but not best deserving, former pupils and assistants, is Klebs, but lately an essayist before one of the London Congress sections. He appears to have proved to his entire satisfaction that his poor master ought to be his attentive pupil.

* Archiv, vol. lxxix., l. c.

Among other novelties he has found that cellular pathology is incompatible with the new gospel of the parasite theory in regard to infectious diseases. Let us hear what Virchow himself has to say about this accusation (*Archiv*, vol. lxxix., p. 209, 1880): "Klebs has placed the whole dispute on a wrong basis. Vegetable and animal parasites *are* among the causes of diseases. Their place is in *etiology*, and therefore it is easily conceived that, as Klebs expresses himself, they found no place in my cellular pathology. There it was not any more my domain to offer an extensive paper on parasites, than it was to treat of traumatic injuries and corrosions. In my cellular pathology I meant to demonstrate the changes which take place in the elements of the organism in the general forms of disease. Thus, I meant to build up a theory of the essentiality of disease. Specified causes were mentioned only as examples—for instance, intoxication; and though but briefly alluded to, parasites have not been entirely overlooked. Cellular pathology never meant to be a general pathology. If that were the case, certainly etiology would have found its place in it without abridgment."

Virchow has often been blamed for reserving his opinion, or rather not expressing it at once in favor of those who fain would have availed themselves of his approval of their rapid strides in discovery and unprecedented quickness of conclusion. We are all probably in favor of judging slowly in regard to assertions which require confirmation. For to what extent hastiness, coupled with gentle ignorance, can prove dangerous, Professor Klebs has shown but lately. In a recent number of a European journal, I find, under his name, the description of a cooking-apparatus, which is credited with keeping bacteria out of the milk which is to be boiled in it. Klebs is quite enthusiastic over it, because, as he asserts, now that bacteria can be kept out of cow's milk, no summer diarrhœa has a chance to develop itself. For summer diarrhœa is all at once, according to him, the result of millions of bacteria in the intestines of the babies, the said bacteria being the same which are found in the decomposing cow's milk. And how does he prove this sweeping assertion? Very simply indeed. While the babies had diarrhœa, he found the bacteria in the fæces, and thus he demonstrates that the diarrhœa is the result, and the only one, of the presence of bacteria. If, however, the Professor had examined the fæces of healthy babies, he might have counted the same number of millions of bacteria. The wise omission of such an examination saves his theory. Thus, if it be true that a little knowledge is a dangerous thing, I am afraid that a little ignorance is just as dangerous.

The parasite theory is not yet a scientific system. In most of its claims it is not yet sustained. Many alleged discoveries of characteristic disease-germs have seen the light in a few years, and disappeared in utter darkness. In regard to the whole question, while anxiously and willingly waiting for further facts which would simplify the pathology of infectious and contagious diseases, I still maintain, as in the preface to my "Treatise on Diphtheria" (1880), the verdict "Not proven."

Another point which has been raised against Virchow is his hesitancy in accepting not only what has been called Darwinism, but at the same time the teachings and postulations of Darwin's followers and apostles.

As early as 1849—in his "Movement in Favor of Unity in Scientific Medicine," Virchow claimed the origin of life to be a mechanical necessity. In an oration delivered in 1858, a year before the publication of Darwin's "Origin of Species"—printed in a pamphlet containing "Four Orations on Life and Disease" (Berlin, 1862)—he pointed to the changeability and transmutability of species as a necessary basis for the mechanical theory of life. Thus, he was by no means unprepared for *Darwin's* theories. But he knew—and nobody knows it better than Darwin himself—that the transmutability of species, the battle for existence, the theory of selection, even the doctrine of inheritance, were by no means Minerva's springing from the head of Jupiter, unprepared and unexpected. For Goethe and Lamarck were not unknown, and the term of self-preservation was a stock in trade of the biology of bygone times. And nobody knows better than Darwin and Virchow, that hypotheses are not facts, problems not articles of creed, and the exaggerated generalizations of enthusiastic pupils not the outgrowths of superior minds. On the other hand, much of what was twenty years ago the fear and anxiety of many men and women, has greatly settled down as established facts. Twenty years ago the pulpits teemed with attacks on Darwin and what was called his monkey-theories, mobs gathered to stone public lecturers, and extra hells were heated to consume him and his followers. For did he not intend to annihilate the belief in everything that was sacred, even Judaism and Christianity themselves? Was not religion based on the certainty that the world was created five thousand and seven hundred years ago—some thousand years after they enjoyed established civilizations in China, the East Indies, and Egypt—and was it not known that the monkey was built on Friday, and man on Saturday?

Many, most of you, remember the time quite well—it has not passed away entirely—when strong expressions were used concerning and against, the theories of Darwin and his pupils and collaborators. Many, however, are aware also that some of these pupils and collaborators fell into the same errors of expression and behavior we have to complain of in their opponents. Whoever was not with them totally, and in all their *conclusions*, was considered to be against them. And in this respect no illustrious man had to suffer more from the exaggerations of zealotism on the part of really scientific men, than Virchow.

A number of public meetings of several of the annual congresses of German physicians and naturalists, mainly those of Munich and Cassel, were taken up with a dispute principally between Virchow on one side, and Haeckel and Klebs on the other. It is mainly Haeckel to whom the popularization in Germany of Darwin's ideas and theories are due. Himself distinguished by original researches, and an enthusiastic scientist, imbued with the instinctive belief that science must fertilize individual and public life, his sustaining Darwin and his theories have greatly contributed to making what has been called Darwinism the intellectual property of most educated Germans. But in one of his public speeches he insisted upon the theories on selection being admitted among the subjects to be taught in the public schools of the most elementary character. It was to this that Virchow objected, on the ground that only established facts and results, and not theories, should be taught in schools. To this objection it was due that he was overwhelmed with reproaches. It was said that the man was so taken up with work of all

kinds, that embryology and Darwinism were sealed books to him, and that he to whom—it was true—science owed so much, was to be pitied for his advancing age, which prevented his keeping up with his former pupils, who now stood on his shoulders enjoying a larger mental horizon. These attacks on the part of Haeckel, and mainly of Klebs, are not pleasant reading. There is more eagerness and bitterness in them than we desire to meet with in scientific productions and strifes, or have ever met with in any words penned by Virchow.

There is a peculiar undercurrent to this controversy which is but rarely visible on the surface, but at the same time is readily recognized by a careful observer. To understand it, it must be remembered that German higher education is mainly classic, and irrespective of religious or anti-religious views or tendencies. The latter certainly are in the majority. Statistics do not prove that in any country and among any people, virtue, vice, and crime depend upon the presence or absence of positive creeds, be they Judaism, Christianism. or any other form of belief; but among other influences on the amount and nature of education and training. Even the anti-semitic persecutions in modern Germany have their cause, not in the prevailing influence of the Christian religion, but in the absence of schools; for it is a statistical fact that those Pomeranian and Mecklenburg districts, in which Jews are killed and Jewish windows broken and stores robbed, are less supplied with schools, and can less boast of mastering the mysteries of reading and writing, than any other part of the land of Bismarck.

Thus, it will be admitted that the mainly classic education and agnostic tendencies of the higher classes of Germans do not debar them from being good students, good men, and honest friends and enemies. But, after all, Hellenism and Latinism were human too, and Greeks and Romans hated and loved. scolded and praised, kicked and kissed, like people before and after them. There were zealots among them, too. Socrates was killed because he believed differently from other people, on the plea, however, that he subverted the State, as two thousand years afterward, the Church burned a hundred thousand adversaries. Something reminding of that has occurred in the land of free thought and profound philosophy lately. Haeckel, the classic scholar, the thorough philosopher, the original worker, is aggrieved at Virchow's not seconding all his propositions, favoring all his plans, agreeing with all his opinions and methods. There is one peculiar trait in Haeckel, too, which is rather uncommon in a German savant. His studies have been mainly in embryology and biology. His religious views are of a negative character. He believes that these ought to be strongly stated, contrary to those who think and write, that creed, faiths, and religion have nothing to do with scientific researches. With these he differs. When his book on Evolution carries him to the conclusion that there is no need of a personal God—just as Laplace said he did not require that hypothesis—he not only expresses that conclusion in strong words, but devotes a whole chapter to it. But others are of the opinion that the finding of truths and expounding them has nothing to do with the fighting of opinions and articles of faith, and that religious controversies must not form a part of scientific books. This opinion Virchow has shared all his life. More than thirty years ago (*Ges. Abh.*, p. 6) he wrote as follows:

"Faith does not admit of a scientific discussion, for science and faith exclude each other. Not to such an extent, however, that one of them renders the other an impossibility, but in such a way that within the range of science there is no place for faith, and the latter can commence only where the former ends. It need not be denied that, if this boundary line be respected, faith *may* have actual objects. It is not, therefore, the domain of science to attack faith or its objects, but its duty is to mark and consolidate the present termination of knowledge."

Such is his position this very day in regard to this question, and thus it is that much of the bitterness of feeling which appears to be engendered by strong anti-religious feelings almost as much as it is known to have generated ferocious persecutions and atrocious wars of religion, has been spent on him. He has borne it placidly, but we have to be sorry for the fact that he could not be spared it. If there is anything in science, that something is its influence in elevating, refining. humanizing, and the scientist ought to be, and will be, the very apostle of humanism. As science clears the brain, so it ought to purify the heart. Knowledge, logic, reason, ought to go hand-in-hand with feeling, sympathy, and fellowship. Let me dismiss, then, the controversy, commenced in an evil hour by a man otherwise great and good, by again quoting Virchow, who has remained true to what he expressed more than thirty years ago in the following words (*Ges. Abh.*, p. 7): "Humanism, in its true meaning, is no apotheosis of mankind—for that would be anthropomorphism—but the scientific knowledge of the manifold and various relations of the thoughtful individual man to the ever-changing world. *Its* base is the science of nature, its very expression anthropology. For that reason humanism is neither atheistic, nor pantheistic, for, in regard to everything beyond the reach of actual knowledge, there is but one formula: *I do not know* (as Liebig said, the science of nature is modest). Humanism is neither spiritualistic nor materialistic, for to *it* constancy of force and constancy of matter are facts of equal significance, and the unity of man's nature is a settled conviction. It is neither grossly egotistic nor sentimentally self-sacrificing, for, while recognizing the claim of everybody else upon existence and full development, he must demand equal rights for himself."

The humanism so well described by him, Virchow has lived up to. In his early political efforts, which necessitated his removal from Berlin to Würzburg, he showed his sympathy with the oppressed mass of the people; in his famous papers on the famine-typhus in Silesia and in the Spessar the showed his appreciation of the necessity of radical changes in the position of the neglected and starving members of society. Thus, you observe that, while engaged in professional researches, which, in regard to universality, novelty, and reforming power, are surpassed by those of none whose name is immortalized in the history of medicine, Virchow never ceased to feel that he did not only belong to abstract science, but to his people; and again, as his science has always a practical aim and result, so his political and social views have a practical bearing. He was born one of the people, and a friend of the people. He need not turn politician; he was a politician born. We, in this our country, are often in danger of forgetting that at one time, at least, the most intelligent, wise, and pure men of this nation of ours were our foremost politicians. Men of courage, character, and genius guided the rising

star of the republic through the night of despair, and the ship of state through the storms of strife and battle. Without the controlling sympathy of the very best, the Constitution of the United States would not have seen the light, and could not have been sustained to its approaching centennial anniversary. We have since descended, sometimes, to the fear that only a second-class intelligence and a third-rate morality make a successful and eager politician, losing sight of the fact that Aristotle already defined man as a "political being," and insisted upon the labor of all in the interest of all.

In many communities a politician is considered a man whose character is not above suspicion, morals doubtful, and social integrity shaky. If, however, there be any truth in this, the fault is neither in politics, nor in the politician or office-holder, but in us who feel so indifferent about our own and public matters as to close our eyes when watching is required, and to bemoan the result of an election instead of once appearing at the polls. When we happen to find a man of genius and integrity in a high or low public office, we are more apt to wonder how he came there than to feel the necessity that our offices should be filled by just such men only. Virchow's example should teach, particularly young medical men, that thorough science and good citizenship do not exclude each other. Indeed, there is nobody so removed from the midst of his fellows, so absorbed by abstract studies, but has interests in common with the rest of mankind; and nobody so raised above the level of his kind but can and ought to contribute to the elevation of his nation or race by personal contact and the attendance to daily duties. These twenty-two years Virchow has been a member of the administration of the city of Berlin. In his place as an "alderman" he has given his attention to the minutiæ of city government. A number of his papers, written within this period, treat of subjects of hygiene, drainage, canalization; and while they point to local necessities and improvements, they give the scientific reader copious material of general importance and new ideas. His regular re-election to the same place, his elevation to the vice-presidency of the board, prove two things: first, that his efforts in the direction of turning science into practice are appreciated by the population of his city; and secondly, that he is not tiring of keeping up his contact with his fellow-citizens, of feeling his obligation to the commonwealth, and acknowledging his duties to his neighbors; and that much, as the Scriptures have it, is demanded of the man to whom much is given.

But more. A man of his attainments can be made useful in a wider sphere; a man of his sense of responsibility will shoulder more important duties. Since 1862 he served in a constant succession of terms as a representative of the people of Berlin, in the Prussian Lower House. In this capacity he acted as a member of finance and other committees, always ready to work, to learn, and to teach.

However, to go into his history as a politician would require a review of Prussian and German politics. This may be said only, that, though he be not at all a brilliant speaker, his words are always listened to with attention, his wisdom is always honored, his courage and moderation are always admired. It is not necessary to add that he sides with the party of liberal views and progressive tendencies, and is in constant opposition to the one man who, through nearly twenty years of oppressive measures, dissolution of parliaments, governing without the assent of the representatives of the people, sudden changes both of economical and ecclesiastical policy and party affiliations, brutal assaults on the rights of individuals, the freedom of the press, and the principles of the constitution, though he succeeded in throwing into the lap of the Prussian reigning family an addition of large territories, and gaining for Germany a partial unity, done more than any German man in history to emasculate German politics and demoralize the public conscience. I am no prophet, but this I predict: when that man of iron and blood will have closed his career, no sorrowing fifty millions will drape their doors, as we did a week ago, and feel that every household has been bereaved, as we then felt. A seat in high politics will be vacant, but no place in the hearts of the people will need to be filled. Bismarck has not found a more persistent and conscientious adversary than Virchow through all his parliamentary career. In regard to the latter I will predict that among the German politicians who resisted, to the utmost, lawlessness of absolutism, and claimed that law should be supreme, the rights of citizens respected, the office-holders know and live up to their duties, the constitution be carefully guarded and protected, and peace not rendered as expensive and exhausting as war, Virchow's name will, for all time, be mentioned among the first and wisest and purest.

Did time permit, I would fain go into particulars: his contributions to the legislature on infectious animal diseases; on fisheries; his participation in the debates and legislation on the arbitrary expulsion of Jesuits; of his introduction of the term "Kulturkampf"—battle for culture—in connection with the dissensions between Bismarck and the Pope, which commenced with the boast of the former that he would not go to Canossa, and ended with the victory of the latter four weeks ago; his many lectures for workingmen's societies; his superintending, with Prof. Holtzendorff, the fortnightly publication of a number of series of popular lectures; his supervising the erection of public hospitals and the first barracks; his conducting the first sanitary train into France during the Franco-German war, and his serving as an officer in the army auxiliary societies centred in Berlin.*

When he first became noted in politics the admirers of his genius became anxious concerning the influence politics might exert on the rest of his labors. There were those who predicted that politics meant the closing of his scientific career, and others—not rarely those who owed him their education, first ideas, and positions—jealous of the great king's powers, who supplied the cartmen with jobs while he was building—as Schiller has it—took it for granted that he could not even keep up with the rapid strides special branches of science were making through their and others' efforts. But the facts point the other way. Since he almost filled the first volume of his *Archiv* with his introductory "On the Standpoints in Scientific Medicine," and his researches "On the Development of Cancer," and "On Pathological Pigments," and an "Essay on the Reform of Pathology and Therapeutics by Microscopical Investigations," almost no volume has appeared to which he has not himself contributed. Many of his papers are elaborate and lengthy, and would, if written by most others, according to the habit prevail-

* One of the latest cable news speaks of Virchow as one of the speakers in a public meeting held in memory of James A. Garfield.

ing in Germany, have swelled the number of pamphlets and books published with independent title-pages, instead of forming parts of journals. Gigantic work like that performed by him in his first twenty years cannot continue forever; one new era created cannot be replaced by another by one man. If he had done nothing since besides writing his occasional reviews and summaries, such as, "Old and New Vitalism" (vol. ix.); "Our Programme" (vol. l.); "War and Science" (vol. li.); "On the Standpoints in Scientific Medicine" (vol. lxx., 1877, thirty years after his first article in the *Archiv*); "The Nature and Causes of Disease" (vol. lxxix.), he would have deserved the thanks of the medical world. That he has done more, we know. Some remarks of his own in regard to the subject are found in the preface to his first volume on tumors, and are very characteristic. He says:

"The dates of many of my lectures will prove that even on those days on which important matters claimed the attention of Parliament, I have attended to my duties as a teacher. To set at rest the anxiety of my friends, I will add that the silent and often unnoticed labor of a scientist requires more energy and greater effort than the activity of the politician, which is both noisier and more speedily appreciated. The latter has appeared to me often to be rather a recreation than otherwise."

Of such "recreations," as Virchow calls them, he has, however, more than one. His practice among the forlorn herdsmen of Asia Minor is an instance.

Schliemann, by whose modern witchcraft holy old Troy is just leaving its tomb, invited Virchow to aid him in his work of discovery of the buried city. He went—partly to aid, partly, as he says, to escape from overwhelming labors at home, only to be engrossed in just as hard work, though of a different nature. In regard to the latter, Schliemann's recent book on *Ilios* contains some very interesting material. But what has engaged my attention and interest most has been to observe the humanity and indefatigability displayed by the great man in the service of the poor and sick. To read of his constant practical exertions in behalf of the miserable population of Hissarlik, how he taught the aborigines the efficacy of chamomile and juniper, which grow about them, unnoticed and unused, in rare abundance; how a spring he laid open for archæological purposes has been called by them the physician's well, and is believed to have beneficial effects; how he was, on leaving the neighborhood, loaded with flowers, the only thing they had and knew would please him, has charmed me intensely. To admire a great man for his professional labors, eagerly undertaken and successfully carried out, is a great satisfaction to the scientific observer; to be able to love him in addition, for his philanthropy and warm-heartedness, is a feast of the soul.

On this platform, and on the seats in front of me, there are masters of our profession, not a few known wherever medical science and art are appreciated, studied, and practised. There is, however, none among them but has learned from the great genius whose name I have so often mentioned in the course of this hour. There are practitioners here, learned, shrewd, successful; every one of them uses the terms invented, knows the theories proposed by the same powerful mind. Those who are young have grown up under the shadow of this tree; those who are old have been taught by him to look through his eyes and follow his methods. Schools have been overturned by his efforts, science and scientific method reign supreme. The last dangerous doctrine of the crases of the blood, so long upheld by Rokitanski, belongs to the past. Pathology is, since and through Virchow, founded on the smallest organism—the cell—and is, as Huxley but recently proclaimed it, nothing but that branch of biology which treats of peculiar disorders of cellular life, or of the co-ordination of cell-complexes, that give rise to every vital process. We cannot to-day read a medical book or monograph without Virchow's name being inscribed on many pages. When it is not mentioned, it is because the facts have become as self-understood, almost, as a mathematical axiom or an occurrence in history. There are hundreds of journal articles in our literature commencing with the phrase, "Virchow says." Modern medicine without his name cannot be written. They belong together. Nevertheless, I repeat, his is not a school. His methods are simply scientific, based on facts and leading to facts. Schools are built on ingenious ideas, not based on facts and experiments. It is not probable, I cannot imagine, that after the schools of Broussais and Brown and Schönlein, and that of Vienna, there will be another one. Our school, the school of the future, is scientific medicine. The greatest glory of Virchow, for all time, is that he was too great to establish one, and too universal to compel us to *jurare in verba magistri*. All of us, old, or young, knowingly and unknowingly, are his pupils. The young men who to-night enter upon the study of medicine will hardly be taught a chapter in pathology which does not exhibit the impress of his genius.

Was I right in presenting, as an ideal pathologist, this man to the old and young engaged in medicine, and particularly those here this evening? Virchow has done enough to immortalize his name by his researches and the progress medicine has made through him. His rank in the history of medicine *is* assured. Among archæologists, also, he ranks high. The Anthropological German Society made him president after the first year of its existence. Schliemann calls him to Troy to avail himself of his superior knowledge. Numerous discoveries among old tombs, and valuable essays, are due to him. His scientific mind and exact methods prove as successful in archæology as in pathology. Even purely historical researches, as those undertaken of late on the battle-field of Fehrbellin, owe him their success.

His position in politics, his participation in all humane endeavors, I have alluded to. No longer is he to us only the man of pure science, but also the practical statesman and philanthropist. Moreover, he is the practitioner of medicine among the poor, like the best and noblest of us.

Thus, we have in him a man who has done more for pathology then any single dead or living man. He has been foremost in raising, when the time was ripe for it, medicine to the dignity of a science, with purely scientific methods. He has served his country as he did science, and humanity as he has his country. Was I right in speaking of him in the first hour of your medical studies, young men, as the ideal of a medical man, and a man? There is but one thing I have to add—it is this: that, as a rule, biographies are given, and held up to admiration and imitation when great men have long completed their labors with their lives. Let us rejoice that Virchow's biography is not completed yet, and that he will, I hope, long live to contribute to medical science, as your teacher and the teacher of your teachers.

# Original Communications.

## TREATMENT OF SUBACUTE AND CHRONIC GOUT.

By ALEXANDER HADDEN, M.D.,

VISITING PHYSICIAN TO THE PRESBYTERIAN HOSPITAL, NEW YORK.

Since the publication of my article on subacute and chronic gout, in this journal of April 17, 1880, I have pursued the same line of inquiry and practice in the management of these painful and obstinate conditions, with such results as will be in the following cases set forth:

Case I.—T. M——, aged thirty-five, stonecutter, married, native of Ireland; admitted into the Presbyterian Hospital, September 11, 1880, suffering from subacute gout. He gives no hereditary history of the affection; was healthy until seven years ago, when he was seized with malarial fever, from which he recovered in a short time. Three years afterward had an attack of acute articular rheumatism, lasting for three weeks; has since had rheumatism, as it has been called, but which seems to have been subacute gout, leaving deformity of wrists, fingers and ankles. On admission, complains of severe pains in the shoulder and hands, which were swollen and sensitive upon pressure. Is unable to flex his fore-arm on his arm. Has constipation, anorexia, restless nights, and occasional pain in the joints. Joints of feet and hands thickened, and the seat of deposits of urate of soda is somewhat emaciated. Urine upon examination was found acid, sp. gr. 1010, no albumen, no casts. Deposits of urate of soda quite abundant. Was put upon the usual anti-rheumatic treatment without any improvement.

October 6th, came under my care suffering considerable pain; hands and feet swollen, red, and some pain and swelling in the other joints. Evidences of the urates of soda deposits in many of the joints. Temperature a little above normal. Urine alkaline, sp. gr. 1010. On microscopic examination, deposits of the urate of soda were found. Bowels were constipated.

Treatment ordered: To relieve the constipation a four-grain pill of comp. colocynth at night. Weak alkaline washes were applied to the painful members. Was given five grains salcy. soda three times a day after eating, and opiates in sufficient quantities to secure rest. Was put upon animal diet, with the exception of such vegetables as possess neither amylaceous nor saccharine principles. On the 20th the acute pain had nearly subsided; has greatly better motion in feet and hands; can walk without much difficulty; is comfortable nights without opiates; is not troubled with flatulence. On 26th was discharged, feeling quite well.

Case II.—G. A——, aged forty-eight, butcher, married, native of England; admitted November 16, 1880, suffering from subacute gout. Has had previous attacks; wrists, elbows, and shoulders of the right side, both knees and ankles, and hands were affected, and had gouty deposits in the smaller joints, and other evidences in the urine and alimentary canal of gout were present. Was placed upon the treatment on 17th, as above mentioned. Urates disappeared from the urine in a few days, and became otherwise quite normal. Patient went on without interruption through convalescence. December 9th, discharged, feeling well.

Case III.—J. D——, aged fifty; painter, widower, native of Ireland; admitted January 13th, suffering from subacute gout. Wrists and hands swollen and inflamed; urates of soda, the phosphates, and oxalates were found in the urine in great abundance. On 25th the same treatment was applied. February 11th, no urates in urine; much improved. March 13th, discharged improved, with hands and feet in good condition.

Case IV.—E. G. W——, aged sixty; lawyer, single, native of New York; admitted December 16, 1880. Has not been intemperate nor had venereal disease. Has no hereditary history of the affection. Ankles swollen; urates in urine, no albumen, no casts; sp. gr. 1020. December 20th.—Diminution of the urates, less pain, better appetite. December 30th.—Urine nearly free from urates; less pain in the joints. January 13, 1881.—Some œdema of the ankles; bandages applied. January 14th.—No pain; joints more mobile. January 20th.—Urates have entirely disappeared. Discharged, very much improved.

Case V.—Mrs. G——, aged fifty-seven, native of Scotland, married; a free liver; is in the habit of drinking considerable malt liquor. Does not inherit gout. Has been subject to a number of attacks of it during the past ten or twelve years. Came under my care, September 20th, for treatment of an attack of the same; quite acute. Suffered the ordinary intestinal symptoms; somewhat reduced in flesh; bowels constipated; feet much swollen; smaller joints of feet greatly so. Joints of thumb, wrist, and elbow had each of them gouty deposits, or tophi; specific gravity of urine, 1012; traces of albumen; no casts. Swollen members were bandaged with cloths wrung out of alkaline water slightly warmed. Cathartic of comp. colocynth, five grains, at night, and salcy. soda five grains four times a day. Opiates to quiet the pain at night. Put upon the diet as previously given. October 1st.—Had greatly improved; no urates now in the urine, and all traces of albumen disappeared. Some pain in joints, some œdema. November 1st.—Entirely well, same diet being continued throughout. I saw her a short time since (September 10, 1881), and she says she has had no return of the gout; health good. She continues the diet under protest.

Case VI.—T. O. H——, aged forty-one, grocer, married, native of New York; admitted July 27, 1881, suffering from what was thought to be gonorrhœal rheumatism. Joints of hands and feet both swollen and painful. Was weak. Was put upon the usual anti-rheumatic remedies, and continued on these up to August 20th. At this time the urine was examined, and found to be of light specific gravity; some albumen; urates of soda in abundance. Was confined to bed. Joints of hands, feet and knees painful; swelled and thickened with gouty deposits. Tophi in the outer margin of the external ear. Was put upon the diet already described, and a bandage wet with a weak alkaline solution wrapped around hands and feet. Was given salcy. soda three times a day after eating. Bowels, which had been alternately relaxed and constipated, were relieved by comp. colocynth pills. Fifteen days thereafter the urates of soda entirely disappeared. Hands almost entirely relieved of pain and swelling; knees and other members also, with the exception of the right foot, which remained swollen, but not painful. Urates have not reappeared in the urine up to this time. September 20th.—Is walking around, one foot slightly swollen and stiff; otherwise in good condition; appetite good, bowels regular, and is increasing in weight.

It will be seen from the above that the withdrawal from our diet of the saccharine and amylaceous food, and the free use of animal diet, has acted beneficially in the treatment of patients suffering from subacute and chronic gout; therefore it is reasonable to infer that this kind of food may be a factor in the production of this disease in the human system, as well as other well-recognized causes.

Garrod gives among his predisposing causes of gout, malt liquors and wines, even the light wines, and says that their free indulgence for several years will bring on the disease in those who have not derived it from their ancestors, and also that port enjoys a very marked reputation in this respect, and that sherry, however dry, is by no means an innocent beverage, so far as gout is concerned. He also states that malt liquors predispose strongly to the production of gout, and supports his statement by the hospital reports of the large cities in England, where porter and other malt liquors are much indulged in by the laboring classes who are there treated. Even that the pale bitter ales, to many so grateful, will, freely indulged in, give rise to gout. Of cider, he says, the fully fermented—that in which the saccharine matter has been gotten rid of—has little power. Sweet and partially fermented cider predisposes to gout; and in that declaration Dr. G. has the opinion of all good observers to support him, and about every writer on the subject. Facts and opinions such as these may be indefinitely continued; but as they only serve to illustrate that he is supported, I will not pursue them farther. Such being the case, I have hoped that during the past year some physiological experiments would have been made that would either have confirmed or disproved the hypothesis advanced in the last paragraph of my published article on this subject, but up to this time I have seen nothing to either confirm or disprove it. It stands only as a clinical fact.

To briefly quote the hypothesis then made: "Whether some fermentation may not take place in the alimentary canal of such animals, birds, and human beings as subsist largely upon a diet composed mainly of amylaceous and saccharine principles, or both, similar to the fermentation which takes place in the manufacture of malt liquors or wines, etc.?" It is true, that the carnivorous animals and birds are entirely free from gout, or any enlargements resembling the disease in parts most likely to be attacked. I have examined the joints of a great many of them; some of them wild and in a state of nature, others in captivity, and which had been so for fifteen or twenty years, and still remained free from gouty deposits; also those domesticated, and the same condition was to be observed. I have also examined the herbivora, or those subsisting largely upon amylaceous and saccharine foods. In the horse, which is perhaps the most highly fed of any of the domestic animals, may be seen enlargements of the joints; those enlargements which are known to farriers as spavin and ringbone. The deposits to which these enlargements are owing, I have examined microscopically, and they have been found to be composed of a substratum resembling the hippurate of soda. These enlargements are not all, of course of this character, some are the results of sprains and other injuries; but I refer to such as are from none of these causes, but which are blood diseases, inherited and acquired. Several of these specimens may now be seen in the museum of the Columbia Veterinary College. Cows and sheep, when highly fed, are also subject to this condition, as I am told by parties having the care of stock of this kind.

To the evidence of Seidangrotzki, that pigeons are subject to gouty deposits in their metatarsal and tarso-phalangeal joints, we will here add the testimony of M. Méguin, who states that parrots die of gout; that in their digital and tarsal articulations are veritable gouty *tophi*. The microscope shows that the substance of which they are composed is urate of soda. This species of birds is purely granivorous, but M. Méguin attributes it to their confined and caged condition, and their inability to indulge in their natural freedom. This cause is evidently not the true one, for pigeons, which have their natural freedom, barnyard fowls, and the grain-eating birds generally, suffer and die of gout, as do parrots, and they certainly enjoy the greatest amount of freedom.

## SKIMMED MILK AS AN ARTICLE OF FOOD.

By E. F. BRUSH, M.D.,

FELLOW OF THE NEW YORK ACADEMY OF MEDICINE, MEMBER OF THE WESTCHESTER COUNTY MEDICAL SOCIETY, ETC., ETC.

The position occupied by health authorities in this country in relation to the milk question is unscientific and fails in its primary object, the preservation of public health. Reviewing the action of the health authorities of New York city, one cannot avoid the impression that in their opinion the addition of water or the subtraction of cream are the causes of the high rate of infant mortality. As an illustration, let us take this report from The Medical Record of September 17th: "A recent outbreak of a mild form of typhoid fever in the Roman Catholic Orphan Asylum in this city was ascribed to the poor quality of the milk furnished for the children. An analysis, made under the direction of the City Board of Health, by Dr. C. E. Munsell, gave the following result: Temperature, 60° F.; lactometer, 109; cream, per cent., 4; water, per cent., 88.69; fat, per cent., 2.64; casein and sugar, per cent., 8; salts, .68. This showed that the milk was skimmed and probably watered." Leaving out of consideration all the elements except water, we find, according to other authorities, that this milk contained less water than what we are led to believe usually occurs in milk. Wanklyn gives, for ordinary country milk, the proportion of water 90.09, or 1.40 more than Munsell's typhoid-breeding milk. For average town milk the same analyzer gives the figures 88.43, and for the Aldeney, which is always reckoned the richest of all, he gives 89.88, or 1.19 more of water than the above so called unhealthy milk. Other authorities, needless to quote, give equally high proportions of water. But even supposing that the milk in question had been skimmed and watered, does any scientific man think that after the process the milk would be injurious or innutritious? There is no doubt that the milk of all the cud-chewing animals contains a much larger proportion of solid matter than Nature intended for this variety of food for proper digestion in the stomachs of the non-cud-chewers. In the feeding of infants mothers are often advised to add as much as one-third water to cow's milk, but even this does not lower its solids to correspond with human milk. Let us, therefore, as honest scientific men, cease to account for disease by the addition of water to milk. It is equally absurd to call skimmed milk unwholesome. Every scientific man who has given the matter thought has arrived at the conclusion that all milks contain more fat than is necessary. Even the young of the animal whose milk we use is never fed

on whole milk after the first week, or when the colostrum ceases to be secreted. Professor Johnson, a practical agriculturist, says of the calf: "It requires the nitrogenized principles more than the fat, and hence half the milk it receives should be skimmed. In fact, calves raised entirely on skimmed milk are healthier than those allowed to get the whole milk from their mothers." Charles L. Flint, Secretary of the Massachusetts State Board of Agriculture, and a practical farmer, after stating that the calf should invariably receive the colostrum from its mother, adds, "when it ceases the milk should be skimmed." This he gives as his own practical experience. I know the instance of a man who fed his calves with the entire whole milk of their mothers, and they all died that season. Since then he has given them less milk with some fat abstracted, and none of them have died in the same manner. This does not indicate that Nature does not understand her work. Our cows are not in a state of nature. We keep the mammary glands in a state of over-excitement, which, no doubt, has modified the secretion. The fact has been also satisfactorily established that woman's milk, which contains much less fat than cow's milk, contains more than is necessary for the sustenance of her child. Professor Jacobi, perhaps the most eminent authority on the subject that we possess, states explicitly: "When no food is given but mother's milk, which contains fat in proportionately smaller quantities than cow's milk, finely suspended and easily absorbed, a good deal of fat is eliminated without any change. Cow's milk contains more butter than human milk; if the latter, as stated above, is not entirely digested, cow's milk butter will certainly leave even more remnants to encumber the intestinal canal." Ewald, in his lectures on digestion, also forces this fact upon us in the following words: "The so-called milk detritus that is so often found in the shape of yellowish-white flocculi in the stools of healthy infants, consists, according to Wegscheider, far more of fat, and, indeed, of oleine, palmitine, stearine, and a little peptone, than of unchanged albumen. Liebig undoubtedly understood this fact of milk containing more fat than was necessary, and therefore proposed, in the preparation of artificial human milk, the use of skimmed milk of the cow. Let no one misunderstand me in relating the above facts. This is not a plea for dishonest milkmen, but rather an earnest protest against the misdirected energy of some of our health officers. With the exception of stopping the sale of milk from the Blissville stables a short time ago, I have been unable to discover a single instance where our health authorities have found poisonous milk from diseased animals.

Let us now consider what skimmed milk is, as sold in the cities. In the first place, it is much more apt to be the produce of healthy cows, from the fact that the milk of diseased animals has to be disposed of at once because it cannot be kept long enough for the cream to rise in paying quantity. Furthermore, practical butter-makers have discovered that butter must be made from the milk of healthy cows. Again, the amount of cream abstracted from milk sent to the city for sale is necessarily small, from the fact that the milk must be kept at a low temperature in order that it may not sour before delivery to customers. I found, in one of the agricultural reports, the statements of a man who visited the creameries at the instance of the State Board of Agriculture, that the proportion of butter made from the cream of the skimmed milk sent to the city was one pound of butter for the hundred pounds of milk. It is also a fact that these creameries are very cautious as to the milk they receive, as they not only test it for dilution, but also as to its odor in the water-bath, which they declare from practical experience indicates certain diseased conditions of the milk. I am aware of the fact that there is another mode of extracting the cream besides skimming, namely: by a centrifugal machine; but after diligent search I have been unable to discover one in operation. My search has, I may state, been confined to Passaic County, New Jersey, and Westchester County, New York. But even it, I am convinced, does not abstract all the cream. One of the properties of albumen—that little understood element of milk—is to hold a certain amount of fat in solution and always to prevent it rising in the form of cream copiously. This fact led Professor Hayes to suggest that the only way to get all the fat from milk was to churn the whole milk instead of the cream alone. In some districts they warm the milk before churning, as they find that in this way they obtain far more butter than by any other proceeding.

Therefore, taking all things into consideration, skimmed milk always contains a fair proportion of fat, and is undoubtedly one of the most nutritious foods we have. It is, therefore, with shame and indignation that I read in to-day's paper the announcement that one hundred and fourteen cans of milk, supposed to be skimmed, was thrown away. In all moderation this cannot be called anything but downright sin and wanton waste. The 1,140 gallons thus destroyed represented so much waste time, waste labor, waste fodder, and life. If they had been made into cheese, they would have produced 836 pounds. It is not presumable that the Board of Health could thus have used up this quantity, but might it not have a special milk-wagon for such contingencies and sell the confiscated milk at a nominal price in the poorer districts of the city? To families receiving a pint of milk a day, this cuts off the supply from over nine thousand families. This is an extreme estimate, but supposing it were only one thousand, the evil would be worth remedying. Do the gentlemen composing the Board think how many babies will, in consequence of their action, pass this day on a short allowance of milk, or what disease and mortality may be caused by the substitutes which poor parents will have to supply to their children in lieu of the milk thus wantonly destroyed? Would it not be well, also, for them to recognize that, after long-continued droughts, like the present, the supply of milk is much lessened, and the temptation to water increased? I have known milk reach the price of $10 a can after one of these raids, as we may justly call them, which invariably occur at a season when the supply is limited. I must again beg not to be misunderstood. I do not advocate, as you know, fraudulent sales of skimmed milk as unskimmed, but I protest against the waste and the train of suffering consequent on the destruction of so much valuable food.

After years of serious thought on this subject and attentive study of the laws relating thereto, I am convinced that there is much that is wrong, much that is deficient, in our legislation. In fact the whole law needs remodelling. As an outline of what I would consider an improved system of milk laws, I would suggest:

*First.*—That all city milk-dealers be compelled to procure a license from the Board of Health.

*Second.*—That all city milk-dealers report to the

Board the quantity of milk they sell and where it is obtained.

*Third.*—That in the death certificates of all children under two years of age dying from certain specified forms of disease, the name of the milkman supplying them be inserted.

By some such system the Board of Health would be able to detect really poisonous milk. If a certain form of infantile trouble was found to prevail among the customers of a certain milkman, an inspector could be sent to the source from which the milk came to ascertain if there had been an epidemic in the dairy, or if any of the cattle were suffering from any disease. After a few years of observations thus carried on, the health authorities would be in a position to propose laws regulating the sale of milk from diseased animals and infected dairies. We would thus come to understand intelligently, what I with shame confess we do not, the highest type of food which bountiful Nature has given us. I am thoroughly convinced of one fact, that the sale of poisonous milk in New York city produces more trouble than if the whole supply was pure, healthy skimmed milk.

MOUNT VERNON, NEW YORK.

## SUBSTITUTIVE MEMBRANE IN THE AURAL CANAL.

BY FRANCIS VALK, M.D.,

NEW YORK.

THIS is a result that may occur in the treatment of suppuration of the middle ear, which is most "devoutly to be wished," as though seldom occurring during the course of treatment, yet in those fortunate cases it protects the patient from any further danger, so that the aural surgeon should look for such a result and promote it by all the means in his power, that he may assure his patient that he is well and thoroughly cured, and that the existing impairment of hearing must be borne with. I have met with two cases of this nature, and their results may be of interest to the profession. The subject was also mentioned by Dr. Samuel Sexton in his discussion of Dr. Clinton Wagner's paper on "Habitual Mouth-Breathing," at the meeting of the County Medical Society, and published in THE MEDICAL RECORD of June 11, 1881, although I judge that his cases were the results of healing in a large perforation of the membrana tympani. These two cases occurred, one in hospital and the other in private practice, and will show that a complete cure of suppuration of the middle ear may occur, by which, although the patient cannot have his hearing restored to the normal standard, for the injury already existing to the parts involved; yet he will be secure from any return, or the dangers that may occur from the condition of the middle ear. I refer to those cases in which the membrane and ossicles have been swept away in the course of the disease.

The first case I saw, Miss E. B——, aged twenty-four, a well-developed young woman, presented herself at Prof. Roosa's clinic, at the Manhattan Eye and Ear Hospital, and was assigned to myself for her history and treatment, which was as follows: She was vaccinated at the age of four years, so the mother says, and shortly after the ears commenced to discharge matter, with occasional earache, for which she used flaxseed poultices and laudanum, which relieved the pain for the time, but the discharge still continued for five years, when it seemed to stop, and at present she complains of slight pains, constant tinnitus aurium in both ears, and hearing impaired, particularly on rainy days. On testing with the watch, which should be heard at twenty-four inches, I found it H. D. R., $\frac{2}{24}$; H. D. L., $\frac{\text{scarcely}}{24}$, while tuning-fork was heard well in both ears, when placed on the mastoid region. She has been troubled with nasopharyngeal catarrh for several years, although the mouths of the Eustachian tubes appear healthy. On examination of the left ear the canal was found to be half full of hard black wax, which I removed with the syringe and warm water, and then noticed a loose portion in the bottom of the canal, which I removed with forceps, and found it to be a cup-shaped mass of epithelial scales matted together, so that it came out entire. The bottom of the canal then presented a new-formed drum of healthy tissue, a neoplasm extending across and completely closing the canal at about the normal position of the drum-membrane, perfectly smooth and even externally, and deeply concave. This neoplasm had a few white striæ pointing toward the centre, and some minute blood-vessels running in the same direction. On touching it with a very fine probe the periphery seemed to be cartilaginous, and the centre, for a space about one-eighth inch in diameter, was thin, elastic, and could be easily moved by Valsalva's method, or with Leigle's otoscope, and must have vibrated to the wave sounds somewhat. The right canal presented the same neoplasm, only it was situated somewhat externally, a little behind the junction of the cartilaginous with the bony canal. After inflation of the middle ears by the catheter and Politzer's method, which was readily done, as the Eustachian tubes were pervious, the hearing was increased to H. D. R., $\frac{1}{4}$; H. D. L., $\frac{3}{4}$. She did not return for treatment, which might have improved the hearing very much.

The second case, occurring in my private practice, was Mr. L. B. V——, an architect of this city, aged forty, who consulted me in January, 1879, for suppuration of the middle ear, existing since an attack of scarlatina during childhood, and having tried several methods of treatment with no success, had about resigned himself to his condition, with impaired hearing and a very profuse discharge from both ears. Wishing to have his life insured in one of our large companies, he was refused as a bad risk until his ears were well. He then decided to make one more trial, and came to my office at the above date, when I found his hearing very poor, being *nil* in the right ear, and only $\frac{1}{4}$ in the left. On cleansing the ears I found large polypi filling one-half of the canals, which I carefully removed with Wilde's snare, and then found that there was no vestige of the drum or ossicles left—all swept away—and the tympanic cavity exposed. The bases of these polypi were touched with monochloracetic acid, and after inflation his hearing was very much improved, particularly in the left, which was $\frac{3}{4}$. The treatment was continued until the suppuration gradually stopped, and I noticed a rim of new-formed tissue growing around the canal at the position of the drum, which gradually extended in both ears until it completely closed up, forming a neoplasm, or substitutive drum-membrane, that completely and efficiently protected the delicate parts of the inner ear. At the present time, now two years since treatment, the ears are perfectly comfortable. There is no sign of any return of the suppuration, and hearing is much improved, compared to its condition before treatment, though it is not quite as good as when under

treatment. These neoplasms closed up, but I have advised him to let the ears alone, as, though an opening might improve the hearing, at the same time there would be great danger of a return of the old affection, with, perhaps, serious results. I cannot say that there was any special course adopted to bring about this result, but they have proved very interesting, and show that should this substitutive membrane appear and entirely close, we may consider it a radical cure of a most distressing and dangerous disease, that may affect the life of our patient —a disease that should receive constant care and attention, so long as the discharge continues and the inner ear is exposed, as I believe all cases will entirely yield to proper and skilful treatment.

233 East Thirty-fifth Street, New York.

## Progress of Medical Science.

The Heart Symptoms of Chorea.—Dr. Octavius Sturges (*Brain*, July, 1881) regards the heart symptoms of chorea, taking them in their entirety, and not by arbitrary selection—the early irregularity, the variable mitral murmur, the very frequent acceleration of heart and pulse, with frequent fluctuations in the rate of both—as being altogether special and peculiar. They are signs of the heart's sympathy with the voluntary muscles, and are seen most frequently at that early time of life when the antecedence of acute rheumatism is the least probable. The heart suffers, by whatever mechanism or nervous influence, together with the rest of the muscular system, or rather it is apt to suffer. In order to understand the conduct of the heart in chorea, we must look to the disease itself and the modifications it exhibits at various ages. The heart is apt to sympathize with the voluntary muscles at all ages, up to the adult period, this sympathy being shown as well by dynamic murmur as by accelerated action, unevenness of rhythm, and not seldom the excited impulse common in hysteria, the particular manner of response being dependent upon the age of the patient. The hypothesis is that these several modes of cardiac affection correspond with as many modifications of chorea, which are exhibited not in the heart only, but in the voluntary muscles as well; these several regions sharing jointly, each in its own degree and after its own manner, in a disorder the area of whose influence is co-extensive with that of ordinary emotional disturbance, and particularly that in all such variations the motor element of the affection is represented mainly by irregularity and unevenness of cardiac rhythm, the emotion element by acceleration, and the paresis element by dynamic murmur.

Intermittent Aphasia (Epileptiform Attacks).—This case, reported by Dr. S. G. Webber, in the *Boston Medical and Surgical Journal*, August 11, 1881, is rather unusual in several respects. The patient, a man aged fifty-four years, who had for many years suffered from periodical headaches, had had several attacks of aphasia, with no loss of power, and apparently no other disturbance of function. As there was also loss of power to write, from the inability to conceive the words and transmit the verbal ideas to the hands, not from inability to hold a pen or move the fingers, it is impossible to know how much disturbance of mental function there was. Yet there must have been at least a limited power for mental action; thus, he was attacked suddenly in a friend's counting-room with inability to talk; he knew enough to recognize the attack, to take his hat and go to his own shop, then to go to the cars, to take the right one out of many, to pay his fare, and to reach his destination entirely unaided. All this was possibly somewhat automatic, yet there must have been considerable cerebral control to carry out such a long-continued course of automatic action.

When seen he had nearly recovered from an attack; he talked in a restrained manner; his memory seemed to be poor; he was irritable; his pupils were about one-sixteenth of an inch in diameter, and did not dilate when the light was diminished; the eyes moved naturally, and there seemed to be no impairment of vision; his tongue was protruded straight; the motion of both hands was the same, but they were a little unsteady; he walked naturally and well, even with the eyes shut; he stood on the right foot rather more easily than on the left, with the eyes shut, but the difference was very slight. Sensation was a little more acute on the right than the left in hands and legs; on the face it was diminished; hearing was slightly better with the left ear, but not good with either; there was no tenderness over the spine, nor over the sympathetic ganglia in the neck; his head was feeling badly from a sense of pressure across his forehead. He was not seen again for nearly two weeks, during which time there had been no new attack. Then he seemed better, but still he lost a word occasionally in talking; his memory was improved.

A little more than two weeks later he had a slight attack, and in a week more a severe one. Between these two he had not been quite so well, he had been somewhat excited, especially in regard to business matters, had slept poorly, but the day before the severe attack was quiet and calm. In the morning he went to his business, and returned home in the afternoon. He was unable to talk, could only say "yes" and "no;" saliva ran from his mouth, he had a dose of bromide and went to sleep. He was seen at six P.M., was quiet, face rather flushed; could not talk connectedly, was especially troubled with using nouns, at times he used wrong words, did not seem disturbed at it, even smiled at his mistakes, when the right word was mentioned, he recognized it and seemed pleased; pulse, 90 to 96; temperature under left axilla, 100° F.; under right, 101° F.; a pencil and paper were given him, but he could not write. The next morning he talked well; pulse, 72; a slight loss of tone was then noticed in the muscles on the right side of the face; he could then stand on the left foot with his eyes shut better than on the right. He subsequently was removed to an asylum, where he died. At the autopsy there was a limited amount of softening of the isle of Riel and the sphenoidal lobe on the left, and to a less extent on the right. This softening was in part post-mortem. The changes in the blood-vessels were marked, particularly as regards the middle coat of the smaller arteries, which was entirely transformed into a calcareous sheath encircling the vessel; there was a slight shrinking or atrophy of the external layers; the larger arteries were healthy. In several places the pia mater was adherent, tearing off with itself thin layers of the gray substance. The brain-cells in the softened parts were darkly pigmented and contained fat-globules.

Dr. Webber attributed the aphasia to the disturbance of circulation caused by the disease of the small blood-vessels, and not to the gross lesions of the brain-substance.

On Insomnia and Other Troubles Connected with Sleep in Persons of Gouty Disposition.—Dr. Dyce Duckworth treats of this subject in *Brain*, July, 1881, from a clinical standpoint. The simplest form of insomnia which occurs in persons who are goutily disposed, is due in most instances to dyspepsia. This sleeplessness is often caused by some particular article of diet which the sufferer digests imperfectly, or may be due to excess of wine, or mixing of various liquors. Other forms of gouty trouble manifest themselves not uncommonly in the early hours of the morning. Thus, attacks of bronchitis, with asthmatic dyspnœa, sometimes replace or alternate with regular onsets of gout, and the paroxysms of asthma are very prone to begin, and to disturb the patient after midnight. Startings and shoutings have been noted, associated or not, with the dyspepsia preceding or accompanying gout. Severe and troublesome priapism in the night sometimes greatly annoys the gouty, commonly without erotic feelings. Grinding of the teeth during sleep is a symptom met with in those who are gouty. Many of the special determinations of the malady take place during the night, whether the sleep be disturbed or not. The patient retires to bed feeling in his usual health, but on awaking in the morning he discovers at once some new phase of his malady: it may be muscular pain or stiffness, angina of the fauces, the beginning of a hemicrania, or more or less severe pain in some point or adjacent texture, such as a stiff neck, lumbago, or a burning pain in a phalangeal joint. These troubles, or some of them, have come on in the night, but have not been sufficient to disturb sleep. Cramps in the calves of the legs are especially prone to vex gouty persons at night, and sometimes precede a severe attack for several nights. The special determinations of gout to certain parts are inseparably connected with excess of uric acid in such parts, and thus we may fairly conceive that some of the nervous symptoms which occur in the gouty owe their cause of irritation of nervous tissue to this peccant matter. Insomnia may well be one symptom due to this irritation.

The particular insomnia described is rather the indication of the gouty habit than a special phase of either acute or chronic gout, as commonly understood, and as such, its importance has not hitherto been clearly signalized. Its recognition is necessary for the employment of the only line of treatment that can truly avail to avert it, and to break the persistence of the habit on which it depends. Hypnotic agents constitute improper means of relief in such cases. The gouty taint must be combated. Strict attention to diet, a free dilution of the blood with bland fluids, regulated exercise of both mental and bodily faculties, together with occasional mercurial purgatives, will commonly avail to overcome the misdirected tendencies and to secure good nights for sufferers from these unpleasant affections.

On the Use of a Feebly Alkaline Water as a Vehicle for the Administration of the Iodide and Bromide of Potassium, etc.—Dr. E. C. Seguin (*Archives of Medicine*, August, 1881) thinks he has found the means of administering the iodide of potassium and the various alkaline bromides in a harmless way (as regards the digestive organs). He has for several years employed a solution of iodide of potassium made by dissolving the salt in water. Experimenting upon a considerable bulk, it has been found that there is a loss by volume of one-fifth in mixing the salt and water in equal parts by weight. In other words, a drop of this solution contains about ⅛ of a grain, or .05. A patient who takes a dose of one hundred drops of this solution does not, in reality, receive (as is often erroneously stated) one hundred grains, or 6.0, of the salt, but only about eighty grains, or 5.0. This difference is of considerable importance in the treatment of cases requiring the maximum doses of iodide. Of this solution Dr. Seguin directs that a definite number of drops be given in a liberal quantity of Vichy water. For patients living where the syphons of Vichy cannot be procured, or for patients who travel much, a teaspoonful of the effervescent Vichy salts, dissolved in a glassful of cold water, is administered. In the case of patients who cannot afford to buy these preparations, he recommends that a good-sized pinch of bicarbonate of sodium be added to a glass of water. The advantages which he claims for this method of giving bromides and iodides, in weak alkaline waters surcharged with carbonic acid, are twofold: first, the supposed irritating effect of the salts upon the gastric mucous membrane is reduced to a minimum, if not absolutely neutralized. He states that no gastric or gastro-intestinal disorder has been observed while giving full or even very large doses of the salts to patients of various ages. As much as sixty to one hundred grains of the bromides have been administered in a day; and even when bromism occurred, the gastric symptoms were almost nil. The iodide of potassium he has thus given in doses varying from small doses to ʒ j. or 32.0 in the day, without indigestion. Second, the taste of the bromides and iodides is considerably masked by the sparkle and subacid taste of the effervescent drink.

The idea of giving the iodides and bromides on an empty stomach, although not new, is in opposition to what he thinks is the general practice. Influenced by the (delusive) notion that iodides and bromides produce gastric irritation, most practitioners give them after eating, when they probably undergo more rapid decomposition, and interfere with the process of digestion. Deposited into an empty stomach, which, in normal conditions, presents a neutral or alkaline reaction, more especially if guarded by an alkaline liquid, it is a practical reality that these salts are very efficacious, and that they cause no gastric irritation. Theoretically, it is almost demonstrable that they are absorbed quickly, fully, and with little, if any, change. The contact of the solution may act as a solid body or a portion of aliment, and cause an outpouring of acid gastric juice; this is, however, not proven, and if such an event does occur, the acidity thus produced will be antagonized by the alkaline salts of the solution.

An Amusing Diagnosis.—The following was obtained from a clairvoyant, and sent to us by a correspondent:

"This lady has a slight congestion of womb and ligaments, attended with neuralgia, which, from a reflex action and sympathetic condition, affects the brain. The liver has malarial symptoms, affecting the stomach and system generally or constitutionally, and causing an impoverishment of the blood and nervous irritation. The condition of the system at present requires local healing and astringing treatment for the uterus, and tonic anti-malarial remedies for the general depletion of the system."

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## IS GUITEAU INSANE?

THE coming trial of Guiteau for the assassination of the late President, has called up a question of great medico-legal interest. The principal line of defence to be adopted is, that the assassin is insane. There is no doubt that the American people, with but few exceptions, believe him sane enough to be hanged, and demand his execution. On the other hand, there are unquestionably many strong reasons for believing Guiteau to be of unsound mind. It would be unjust, wrong, and, politically speaking, futile to execute Guiteau if he is insane, even though his victim was the head of a nation. For responsibility is set aside by mental disease, and, furthermore, it has been shown with tolerable certainty, that the fear of execution has no deterrent effect upon the criminal impulses of the weak-minded and insane.

So that the question of Guiteau's mental condition and responsibility is one that deserves a most serious consideration.

It is claimed that Guiteau is a monomaniac. He has that form of monomania which has been described by German writers as *primäre Verrücktheit*, and by others as partial intellectual insanity. It is a disease in which deluded opinion forms the striking feature, though delusion is not always present, while there may be with it some perversions of the emotions, or some illusions, simple or transformed. Writing of the general mental condition of this class, Spitzka (*St. Louis Clinical Record*, Dec., 1880) says: "The general intellectual status of these patients, though rarely of very high order, is moderately fair. A monomaniac is frequently crochety, irritable and depressed. He concludes that he is a personage of some importance. Some great political movement takes place, he throws himself into it, either in a fixed character that he has already constructed for himself, or with the vague idea that he is an influential personage. He seeks interviews, holds actual conversations with the big men of the day, accepts the common courtesy shown him by those in office as a tribute to his value, is rejected, however, and then judges himself to be the victim of jealousy or of rival cabals, makes intemperate and querulent complaints to higher officials, perhaps makes violent attacks on them."

This description shows very well what are some of the occasional phases of monomania. And this description, though written in 1880, corresponds curiously with the actions of Guiteau. It must be remembered, however, that actions almost similar may be performed by perfectly sane men. They do not prove insanity, but are simply liable to form a part of the clinical picture of one form of that disease.

The evidences of Guiteau's unsound mental condition are, so far as the facts of his history are yet given, as follows: there is evidence of hereditary taint, an uncle and two cousins having been insane. Guiteau was carefully brought up and well educated, but early showed an unbalanced mind. When quite young he joined the Oneida Community. Here his conduct was so peculiar that he was, after a time, obliged to leave. His actions showed moral perversities and disagreeable personal traits rather than any notable intellectual aberrations. Still he was remembered on account of his intense conceit, his eccentricity, and occasional incoherence.

After leaving the community, he studied and practised law, but never rose above the position of a bill-collector. Somewhat later, in writing to his relatives, he assumed the title of "Hon.," and continued to use it, despite expostulation. Although without credit or friends, he formed a scheme for buying out the *Chicago Tribune*, which paper he expected that he could then conduct. His intense and morbid egotism was constantly displaying itself. It took the form of a craving for notoriety, which at times developed with considerable force. He attempted the *rôle* of a lecturer and failed. His lectures contained a seeming delusion, which was defended with incoherence. This delusion was that the second coming of Christ took place A.D. 70, at the time of the burning of the Temple. In advertising his lecture, he had himself announced as a celebrated Chicago lawyer. He delivered one political lecture before a colored audience during the last Presidential campaign. This seems to have been the sole service that he performed. Upon it he built up his belief that he was entitled to the Austrian Ministry, and, that failing, to the Paris Consulship.

The frame of mind in which he conceived the project of murdering the President does not seem to have been one of malice. He acted under a deluded opinion that the deed was for the good of the Republican party and the nation. This delusion was excited and fed, no doubt, by his extreme egotism and craving for public attention. The purpose

of assassination once formed, there was no doubting or thought of change afterward. The preparations for the murder were made deliberately, and the after-consequences were, in a degree, considered. Since the murder, Guiteau has shown no evidence of remorse, but there has developed an intense solicitude for his personal safety. He has shown great insensibility to the suffering he has caused, and has appeared rather proud of the sickening distinction he has achieved.

The above are the principal facts as yet furnished which contribute to the belief in the assassin's insanity. It must be added that the general character of the man has been extremely bad. Besides being vain and pretentious, he has always appeared quite insensible to shame, and has never hesitated to importune aggressively for any desired favor. He was utterly unreliable, lied, evaded his debts, earned money by the worst methods of the shyster lawyer, was brutal to his wife, and immoral in his habits. His manner was mean and cringing. His intellectual ability is, perhaps, a little below the average.

With these, and other facts that are quite generally known, we may be able to form some idea as to which side of the border-line between sanity and insanity Guiteau is to be placed. Of the factors of an unsound mind, we can find in Guiteau's mental history more or less evidence of delusion, incoherence, and of moral perversion. The morbid egotism, the homicidal act, performed without malice, and the subsequent development of a morbid fear of death, should also be taken into account. A more complete history of the assassin's life might bring out other factors. But, at present, it is chiefly the evidence of a tendency to deluded opinions proceeding oftenest from a morbid egotism, that must furnish the test of his intellectual condition.

Judged by this test, we cannot convince ourselves that Guiteau should be considered positively insane. He is on the border-line where the eccentricity of weak minds trends upon insanity. Crichton Brown described a class of persons who stand half way between the insane and idiotic on the one hand, and the simply "nervous" on the other. They constitute the "crazy circle." Guiteau has all his life belonged to this class. It will be claimed that in his last murderous act he showed himself to be unmistakably insane. We do not think that there is yet evidence enough to prove this.

It must not be forgotten, as Bucknill and Tuke have said, that deluded opinion upon one subject, standing by itself, and without hallucination or perversion of the emotions or instincts, can rarely be recognized as a form of insanity. The delusions of Guiteau were not accompanied by such perversions to any marked degree. It is worthy of note that, despite his eccentricities, the uniform story is that nobody thought him insane. Indeed, the delusions of Guiteau, including his last, can hardly be called such if we adopt the strict language of some authors (Guy) who define a delusion as an involuntary belief without data or premise. The delusion of Guiteau regarding his crime, which had some data, is most widely marked off from that of the genuine monomaniac who, for example, believes himself the Holy Ghost; and none of his previous quasi-delusions had indicated to acquaintances anything more than a disagreeably eccentric character.

As regards the morbid egotism which formed a part of Guiteau's character and so often shaped his actions, this is indeed a common symptom in the insane and in the unbalanced mental condition that precedes insanity.

But neither morbid egotism nor consequent delusions necessarily stamp the individual as a lunatic. The degree of the one, the irrationality of the other, as well as accompanying facts, must be considered. Guiteau's egotism was great, but not phenomenal; his delusions were contemptible, but not entirely without data. Add to this that his feelings, though brutal, were not uncontrollable; that he was more vicious than passionate; more coherent in his deceits than incoherent in his language or writing, and we get the picture of a man who is vain, brutish, weak-minded, and offensively eccentric—but not insane.

Even supposing, however, that some taint of insanity were upon this man, it would yet remain to be proved that he was not legally responsible for his deed. It is now a recognized principle that a man may be insane in some particulars, yet sane and capable of legal and responsible acts in other directions. If a man has the delusion that a person whom he meets has done him an injury, and, acting on the delusion, kills this person, he is responsible in law. This may not be the correct test of responsibility, but it is, we believe, the one still generally held, and is the one endorsed by Elwell in his recent treatise on medical jurisprudence.

Now, in the case of the present murder it may be shown that the act was done under a kind of delusion; but this will not be enough. It must be further shown that the delusion was such that Guiteau did not know the nature of the act he was doing; or, in other words, he did not know he was doing wrong. We suspect that this will not be an easy thing to demonstrate. Though the assassin claims that his act was for the party's good, he has never shown any evidence that he did not understand its immorality and heinousness.

It may be that the evidence will develop facts which will put Guiteau's mental condition in a different light. But now it appears quite clear that the prisoner's crime was the act of a vicious nature,

congenitally bad and erratic, perhaps, but made worse by self-indulgence and the unchecked promptings of a supreme egotism. So far as their natural infirmities go, such men deserve pity, but they cannot be considered irresponsible. And, if society must protect itself by taking a life for a life, it must in justice bring to account such miscreants as Guiteau.

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THE PROGRESS OF PERITONEAL SURGERY.

RARELY, even before the New York Academy of Medicine, is a subject brought up for discussion which commands so much interest and affords so much practical instruction as that treated of in the paper of Dr. Sims. In another place we publish a full abstract of the remarks of our distinguished countryman, and also the comments and criticisms of other gentlemen who took part in the proceedings of the evening. The subject is one which, of late, has claimed the attention of the leading surgeons throughout the world, and its careful study has invited the performance of operations in abdominal surgery which have been daring, brilliant, and, in a goodly number of cases, successful. While, however, there is danger that enthusiasm for bold and startling operations upon the peritoneal cavity may be carried to extremes, it is safe to say that, by a more thorough mastery of the principles which underlie success, even in the most daring surgical procedures upon the abdomen, much substantial progress is to be made. The time has not come when we can distinctly draw the line between what can and what cannot be done in operating upon the peritoneum and the organs covered by it; but we are cautiously and surely drifting in the right direction. The surgical opinions, pro and con, regarding the practicability of these operations, are very clearly and satisfactorily brought out in the paper and discussion to which we now refer. The author of the paper, with the foresight and prerogative of an acknowledged leader in his specialty, prospects possibilities and anticipates results which are salient points for profitable discussion; at the same time they challenge, in a direct and practical manner, the calm and stern judgment of the clinical experience of surgeons generally.

From his standpoint it is safe to assert that Dr. Sims cannot go too far in his advocacy of the utility of abdominal sections for all possible injuries or diseases connected with the peritoneal cavity. But it is fortunate, however, that the profession at large is not yet prepared to accept his advice *in toto*. It was certainly becoming in him to claim ovariotomy as the parent of peritoneal surgery; but there are certain conditions in the performance of that operation which, unfortunately for general surgery, never obtain in certain emergencies when the surgeon may be tempted to cut into the abdominal cavity. It is not fair to compare the two conditions. As was well said by Dr. James R. Wood, in the course of his timely and practical remarks, patients for ovariotomy have a special preparation for weeks, while those with injuries of the abdomen, who seem to require immediate relief by operation, are in a condition of shock at the time. Obviously, the addition of the extra shock of an operation would, under the circumstances, inevitably strike the balance on the wrong side. Here at least a distinction can be easily made between an operation which is practical and consequently successful, and one which is impracticable and consequently dangerous. The difficulty of diagnosis in cases of injury of the abdominal cavity is one not sufficiently insisted upon by the advocates of these daring operations. There are so many possible accessory conditions to be taken into account in regard to the organ wounded, the degree and source of hemorrhage, and, in case of gunshot injury, the exact locality of the missile, that the surgeon is apt to hesitate in operating, and inclined to shrink from a responsibility of directly inviting a fatal issue. Until we can be sure on all these points, we can never be warranted in doing more than treat the patient on general principles.

We are somewhat surprised to learn that septicæmia is the chief cause of death after ovariotomy. While admitting that fluids in the cavity of the peritoneum may be rapidly absorbed, we are at a loss to understand how simple bloody serum could so soon become septic as to make it difficult to separate its results from the usual ones of shock after an operation. It is hard to believe, within as short a time after an operation as is possible for bloody serum to remain as such, that the poisoning of the system should be profound enough to produce death. But we are inclined to think that the distinguished author of the paper is theorizing on this point, rather than drawing from his experience in the dead-house. There is something in his earnest advocacy of drainage that offsets in a somewhat striking manner the benefits of the much-vaunted antiseptic system. When of the two methods—drainage and disinfection—it is said that drainage ranks first, the keynote is struck for all the real successes that have been directly obtained by wound-management in peritoneal surgery. Clinical experience has proved this over and over again. Through-drainage also takes an equally high rank as a method of procedure in every part of the body subject to disease or injury, but the opportunities for emphasizing the fact should never be lost. If for general surgery the paper has done nothing more than enforce anew the importance of through-drainage, and bring it prominently forward as a main reliance in otherwise desperate and unpromising cases, the author has conferred a lasting obligation on his brethren.

THE DISCHARGE FROM PRESIDENT GARFIELD'S EAR.

THE letter of a correspondent in another column, referring to the probable cause of discharge from the external auditory canal of the late President Garfield, brings to the surface of discussion some interesting points in connection with metastatic parotitis. The grounds for supposing that the inflammatory processes in the parotid developed otitis media, and that the discharge from the external meatus was in reality due to ear disease, are ingeniously substantiated by his analysis of the symptoms presented, and by the conditions developed during the latter period of the patient's life. It is well known that parotitis pure and simple, as in ordinary mumps, is frequently followed by inflammation of the middle ear. Whether or no there is a direct connection between cause and effect, through what the correspondent chooses to call nervous sympathy, may be open to some question. It is by no means impossible to suppose that such is not the case, as the communications of the nervous supply of the parotid with that of the middle ear is quite direct through the inosculations of the auriculo-temporal nerve and the branches of the carotid plexus. There appears, however, to be good reason for supposing that the inflammation of the middle ear may be the result of ordinary metastasis through the vessels and lymphatics which are common to both localities. Indeed, it is asserted by competent authority that this course is the most likely one for the extension of inflammation from the parotid to the tympanic cavity and the contiguous parts. Such at least has been an accepted explanation by Vogel and others, for the extension of disease from the gland in question to the labyrinth in the cases of sudden and complete deafness which sometimes accompanies ordinary mumps.

It is not improbable that the discharge of pus from the external meatus was made through an opening into the cartilaginous floor of the external auditory canal, as the pus might have taken such a route by burrowing underneath the tough parotido-masseteric fascia. This is, however, quite an uncommon occurrence, and we doubt if otologists generally would accept it as a reasonable explanation, either on anatomical or pathological grounds. On the other hand, a sudden and profuse discharge from the ear, accompanied by an immediate relief of pain and subsidence of the pulse, are phenomena which are often enough associated with rupture of the drum-head, and liberation of pent-up pus in the tympanic cavity, to warrant serious consideration in studying the relations of cause and effect in this particular case.

The most significant symptom as pointing to middle-ear trouble is, without doubt, the occurrence of facial paralysis. This latter condition is most apt to ensue as the result of the involvement of the seventh nerve as it passes through the Fallopian canal. This is one of the most frequent explanations for Bell's paralysis, aside from direct wounds to the nerve, or occasional stretching of its trunk. But the only way at present to clear up doubts on the subject is the declaration from the gentlemen who made the autopsy as to whether or no any opening was found through the cartilaginous portion of the canal. No mention is made of this fact in the official account of the autopsy; but this is possibly an accidental omission.

# Reports of Societies.

## NEW YORK ACADEMY OF MEDICINE.

*Stated Meeting, October* 6, 1881.

FORDYCE BARKER, M.D., LL.D., PRESIDENT, IN THE CHAIR.

THE Corresponding Secretary, Dr. John G. Adams, announced the death of Dr. James P. White, of Buffalo, N. Y., Honorary and Corresponding Fellow of the Academy, and appropriate and eloquent remarks, paying a high tribute of respect to the memory of the deceased, were made by Dr. Austin Flint, who also offered a series of resolutions, which were unanimously adopted.

Drs. M. Declarc, of Paris; Leopold Meyer, of Copenhagen; J. J. Gelbke, of Dresden; Major Gardner, U.S.A.; H. D. Didama, of Syracuse; Sabal, of Florida; Newell, of New Brunswick, N. J.; Shine, of St. Augustine, Fla.; Cushing, of San Francisco, and Mussey, of Cincinnati, were introduced to the Academy and invited to seats upon the platform.

The report of the delegates to the International Medical Congress was made by Dr. John G. Adams.

THE RECENT PROGRESS OF PERITONEAL SURGERY.

DR. J. MARION SIMS read a paper on the above subject, and had been prompted to do so by what he saw and heard in the surgical and obstetrical sections at the International Medical Congress. His object was to lay before the Academy a synopsis of the recent progress of peritoneal surgery, as reflected at the Congress, and to answer the question, "Does it lead to a better treatment of gunshot and other wounds of the abdominal cavity?"

McDowell, justly styled "the father of ovariotomy," operated as well and with as great a measure of success as did Peaslee, Atlee, or Spencer Wells up to within the last ten years. The later marvellous success of the operation, and the principles of ovariotomy, however, did not belong to it alone, but were applicable to all the organs and contents of the cavity of the abdomen. Ovariotomy was the parent of peritoneal surgery, and the governing principles of the one must govern all operations affecting the other. Peritoneal surgery was a new creation, or discovery, a new domain which had been opened to the profession at large by a few pioneers, who, as in the physical world, "go before and blaze the way for us to follow and take possession." No greater progress had been made in any department of medicine than had recently been made in peritoneal surgery. It had for its foundation the following principles:

*First.*—All hemorrhage must be arrested. This

was not more important in abdominal than in any other branch of surgery, and might be accomplished by pressure, the ligature, or the pressure forceps, which were of comparatively recent date, and were used to arrest hemorrhage temporarily. After the operation was finished they were replaced by ligatures. They were of very great service in ovariotomy.

*Second.*—Clean out the peritoneal cavity thoroughly, as our great master, Thomas Keith, has taught us long ago.

*Third.*—The abdominal incision in the middle line must be properly closed.

The divided edges of the peritoneum should be united. There were the best of clinical reasons for that, as well as the evidence afforded by experiments. If the cut edges of the peritoneum were not included in the sutures, there was necessarily left a raw surface of greater or less length and varying width. Nature protected the peritoneum from such a raw surface by immediate union with subjacent parts, and if the adhesion was with the intestines, serious and even fatal results might follow. Such a result had occurred, and therefore the possibility of its occurrence should be guarded against.

Occasionally the peritoneum unites, while the abdominal parietes gape widely open—a clinical fact which aided in proving the importance of bringing the divided edges together.

*Fourth.*—Drainage or no drainage. In general surgery no one dared to dispute its value. Listerism and drainage became fashionable at about the same time; but to Chassaignac should be given the credit of having brought prominently before the profession the drainage-tube. In all abdominal surgery Dr. Sims preferred complete drainage to antiseptics, if only one could be adopted. The glass tube did no harm; if there was no bloody serum to be drawn off, it could be removed within a few hours, if bloody serum was in the peritoneal cavity, it should be evacuated. Spencer Wells and Thornton rejected the drainage-tube, on the theory that Listerism rendered the peritoneal effusion aseptic, and therefore its absorption was not attended with danger. But Dr. Sims was positive that it was not so in every instance, and, as an illustration cited one of Mr. Wells' cases, in which he assisted at the operation. Much hemorrhage occurred; Dr. Sims suggested the use of a drainage-tube; Mr. Wells regarded the tube as unnecessary, and closed the abdominal incision completely. Symptoms of septicæmia developed; bloody serum appeared in the incision; the wound was opened; pus and bloody serum were liberated; the peritoneal cavity was cleansed and kept clean; the symptoms of septicæmia disappeared, and the patient recovered.

The only valid objection to the drainage-tube was not in its immediate danger, but in its ultimate tendency to favor the development of ventral hernia—a tendency which we must learn to obviate. That is a problem which can be worked out; but he believed that it was better to risk the occurrence of ventral hernia than to take the risk of losing the life of the patient.

The clamp, in ovariotomy, was no longer used in England; it and Listerism were antagonistic.

Dr. Sims then reviewed the operations which must be performed in accordance with the principles governing peritoneal surgery, such as extirpation of the uterus for fibroids, Battey's operation, which Lawson Tait had performed seventy times, with only six deaths, and Savage thirty times without a single death; extirpation of the spleen, extirpation of the kidneys, for which there was a future by way of the abdominal incision, etc.

Lawson Tait had already operated upon a case of hydronephrosis by the abdominal incision, stitched the walls of the cyst to the edges of the abdominal wound, and introduced a drainage-tube. In 1878 Dr. Sims operated for dropsy of the gall-bladder by opening the abdominal cavity, opening the gall-bladder, and discharging its contents, stitching the edges of the wound in the gall-bladder to the edges of the abdominal wound, and, although the patient died, autopsy showed that death was not the result of the operation. Lawson Tait operated upon a similar case in 1880, and his patient recovered. Tait had also operated six times for hydatids of the liver.

Dr. Thomas had boldly opened the bladder in a case in which it was firmly attached to the anterior surface of an ovarian tumor, brought the edges of the opening into the lips of the abdominal incision, and secured them with sutures, and the patient recovered.

With reference to Billroth's operation for removal of cancer of the pyloric extremity of the stomach, we could admire the heroism of the surgeon and the brilliancy of the operation, while we deplored its uselessness.

Laparotomy in obstruction of the bowels had become an accepted operation, and was another triumph following in the wake of ovariotomy.

Hemorrhage from rupture of a blood-vessel in Fallopian pregnancy was an accident which demanded the opening of the abdominal cavity and securing the bleeding vessel. It was Stephen Rogers, of New York, who was the first to proclaim to the world (1867) that it was our duty to open the peritoneal cavity at once in such cases, and secure the bleeding vessel.

Nearly all the operations thus referred to, except ovariotomy, are the result of the progress made within the last ten years, and the principles of peritoneal surgery were now so well established, and practised so successfully, that further triumphs would be achieved.

In 1863 Dr. Sims performed ovariotomy with Nelaton; the patient died, and at the autopsy only bloody serum was found in the peritoneal cavity. In 1872 he published a paper in which he maintained that septicæmia, and not peritonitis, was the great outlet of life after ovariotomy. Dr. Sims then gave a description of the case of Richardson, who received a gun-shot wound of the abdomen in the *Tribune* office, in New York. The patient lingered for several days. Bloody serum was found in the abdominal cavity at the autopsy. It was possible that the patient's life might have been saved by a timely operation. He also referred to the case of James Fisk, in whose abdominal cavity bloody serum was found at autopsy. Extended reference was made to his experience at Sedan, in Prussia, where he found that soldiers dying from wounds in the abdomen had bloody serum in the peritoneal cavity, without trace of peritonitis, thus leading him to the conclusion that they died of septicæmia and shock.

Wounds of the peritoneum, however made, had a common course to run and were all amenable to the same general laws. Should the triumphs of modern surgery be monopolized by ovariotomists? His answer was No. Death from gun-shot wounds occurred from shock, hemorrhage, and septicæmia, but rarely from peritonitis.

Special reference was made to seven cases of gun-shot wounds through the pelvis which he saw at Sedan. All the patients recovered. To these were added one case seen by Dr. Pallen, and four by Major Gardiner, U.S.A.; twelve in all and no deaths.

In the Crimean war, 92 per cent. of the soldiers with gun-shot wounds of the abdomen died. Why do men recover from perforating wounds in the pelvic cavity, and die from wounds in the abdominal cavity? In the one case there is natural drainage for septicæmic fluids along the track of the ball, while in the other drainage is impossible, the fluid falls into the abdominal cavity and the patient quickly dies from blood-poisoning.

Special reference was made to a case of gun-shot wound of the abdomen, in which there was perforation of the intestine, and in which Dr. Newell, of New Brunswick, N. J., thirty-four years ago, made an abdominal incision, sutured the intestines, cleansed the cavity, closed the wound, and the patient recovered.

Dr. Sims also alluded to Dr. Hunter McGuire's address before the American Medical Association at its last annual meeting, as a paper in which advanced views concerning the treatment of gun-shot wounds of the abdomen were advocated.

To his cablegram from Paris, when President Garfield was shot, Dr. Sims made special reference, and stated that it was based upon the supposition, as was then generally accepted, that the abdominal cavity had been penetrated and that hemorrhage into it had occurred. His language then was: "If the President had recovered from shock, and if there was evidence that the ball had traversed the abdominal cavity and severed a vessel which remained a source of hemorrhage, or had perforated the intestines, the only safety was in opening the abdomen, securing the bleeding vessel, suturing the intestines, cleansing the cavity, and treating the case as one of ovariotomy." And he was of the same opinion still. There was no more danger of a man dying from a gun-shot wound of the abdomen, if properly treated, than there was of a woman dying after ovariotomy, if properly performed.

Dr. Sims' conclusions were as follows:

*First.*—Wounds of the peritoneal cavity, however made, have a common course to run.

*Second.*—They have a common termination, and that is death by septicæmia.

*Third.*—This is the general law in death after ovariotomy.

*Fourth.*—It is the general law in death after gun-shot and other wounds of the abdominal cavity.

*Fifth.*—The septicæmia is the result of absorption of bloody serum found in the peritoneal cavity after wounds or operations.

*Sixth.*—Gun-shot wounds of the pelvic cavity are recovered from, because of natural drainage afforded by the track of the ball.

*Seventh.*—Patients with gun-shot wounds of the abdomen die of septicæmia, because there is no natural drainage, and the bloody serum falls into the peritoneal cavity and is there absorbed.

*Eighth.*—The effect of bloody fluid upon the abdominal cavity is such as to demand abdominal incision, the suturing of wounded intestines, the tying of bleeding vessels, the cleansing of the cavity, and the use of the drainage-tube or not, according to circumstances.

*Ninth.*—If this operation be well done, there is hardly any need of a drainage-tube.

The paper being before the Academy, the President invited Dr. Lewis A. Sayre to open the discussion. After complimenting the author on the production of so valuable a paper, he referred to pelvic and abdominal wounds, and asked, Why did the patients with pelvic wounds, to whom Dr. Sims had referred, get well? It was because the wound was through and through, and drainage was established; whereas in the abominal wounds there was no drainage. If, therefore, he was to be shot, he would pray God that the man might have powder enough to send the ball clear through, as the most important item in treatment of such wounds was drainage, *drainage*, and the use of antiseptics might follow as thoroughly as possible. To use a practical illustration: if the bung of a cider-barrel was knocked out, the cider would overflow and foam, but the barrel would never be emptied until the barrel was rolled over and the bunghole brought to the under side, so that complete drainage could take place.

In the first place, however, in all these wounds, as well as in all other conditions, there was a demand for accuracy in diagnosis; and upon that only could true principles of treatment be based.

Col. McKee, M.D., U.S.A., referred to a case in which a soldier in the battle of the Wilderness was shot in the abdomen, and a short time afterward the ball passed by stool, and the man recovered without accident.

He also referred to a case in which a man swallowed a piece of wire and he operated and removed it from the abdominal cavity. (See Medical Record, vol. xv., p. 607.)

Dr. Mussey, of Cincinnati: "What can he say who cometh after the king?" He then gave an account of an abdominal wound inflicted on a woman by a bull, who gored her so that her bowels fell out upon the ground. She gathered them up in her apron, went into the house, and sent for a doctor. She recovered entirely.

Dr. Clinton Cushing, of San Francisco, referred to his cases of epithelioma of the uterus, in which he completely removed that organ through the vagina. He had performed the operation and seen it performed in four cases, and it seemed to him to be justifiable when the surrounding tissues were not involved, and the uterus was entirely movable.

Dr. James R. Wood: I dislike to speak after the king. I do not like to take issue with him. He has spoken as a surgeon who has had to do with the female organs of generation, and others in that region of the body, and which he has treated so wonderfully well. But I am loth to endorse all that my dear friend Dr. Sims has said. I think that the surgeon should be careful how he invades the peritoneal cavity, unless, as my friend Dr. Sayre has said, he has made out an accurate diagnosis, and to do this, especially in gun-shot wounds of this cavity, is almost impossible. I have, during my professional life, seen a great many gun-shot wounds of the abdomen, of the pelvis, of the thorax, all the great cavities of the body, and early in my professional days, I searched for bullets as I should not have done. It is well-known that the slightest obstruction to the passage of a ball, which, unobstructed, would have passed completely through, may deflect it, so that it will lodge in an unexpected locality and at a great distance from the point of entrance. I shall not refer to the case of our beloved President, but I will recall the history of one much like it, which I met in this city some years ago, where a bullet entered upon the right side of the body and passed, as it was supposed, through into the lumbar

region on the opposite side. A surgeon saw this case, introduced his finger at the point of entrance, and reached the liver. He was sure he felt the liver. That man died of blood-poisoning. At the autopsy the ball was found imbedded in the glutei muscles. It had not reached the liver; but had been deflected and lodged in its hiding-place among the muscles of the buttock.

With reference to reaching into the cavity of the peritoneum in search for bullets or injured parts, it is a very serious matter. The fluid upon which Dr. Sims has placed so much stress is not always bloody serum; but very frequently there is a considerable quantity of blood in the peritoneal cavity, and the true pelvis is frequently filled with blood, and the man who makes the post-mortem will fail, perhaps, to find it. I have known that to be the case repeatedly.

Well, suppose the liver is injured, as that organ has been talked about very much lately. Bullets have been felt in it, skilled microscopists have looked for bile or liver debris in the pus, and it is believed that the liver has been wounded. If the diagnosis has been made out, my friend, Dr. Sims, would feel justified in opening the peritoneal cavity for the purpose of securing bleeding vessels and sponging out the blood. But suppose the thicker portion of the liver is wounded, the hemorrhage will continue and it cannot be arrested. The blood-vessels of this organ will remain open because of their anatomical peculiarity, and the ligature cannot be used. These patients usually die within six or eight hours. If only the thin bevelled portion of the liver is injured, the hemorrhage may be slight and may be arrested spontaneously. But suppose we cut into the cavity of the peritoneum and we find blood there in large quantity. The patient is still laboring under shock; for, in penetrating wounds of all serous cavities, especially gun-shot wounds, the shock which follows lasts for a long time. In the celebrated case of Fisk the patient never came out from the shock. But suppose we cut into the cavity of the peritoneum while the man is suffering from shock. What becomes of him? He dies, and probably will do so while we are cleansing the cavity. I am simply stating surgical facts, and we must look them squarely in the face. We have, besides, to look to the reputation of the surgeon, and to the reputation of the profession of which we are members. If the patient dies while the surgeon is operating, and blood is found flowing freely, what will be the effect produced upon the community? Again, suppose that the stomach is perforated, and we proceed to cut out the lacerated portion as Billroth did the diseased portion in cancer of the pylorus—which in my opinion is a dreadful operation to perform. We will sew up the opening, but the contents will escape into the peritoneal cavity and reach down into the pelvis, and if now we make a free incision in the abdominal walls for the purpose of cleansing this cavity, I believe we should get ourselves into trouble. Most of these patients die in shock, they do not live long enough to get blood-poisoning. But we are told that we must not wait, that we must operate at once, lest this bloody serum which reaches the peritoneal cavity gives rise to septic poisoning. Yet we sew up the opening in the stomach, close the cavity of the peritoneum, the patient does not come out of the shock and dies.

The circumstances under which Dr. Sims performs ovariotomy and various other operations are different from those under which the general surgeon is called to treat gun-shot wounds of the peritoneal cavity. The woman upon whom he operates has been prepared for the operation; her condition is as good as it can be made, and there is no shock. The shock in his cases comes afterward; but the general surgeon comes to his patient and finds shock staring him in the face.

While I should be extremely cautious about opening the peritoneal cavity, if I found that this cavity had been penetrated I should keep the entrance patent.

Next with reference to the bladder. I have seen many cases of gun-shot wounds of that organ. I removed in one case a bullet from the bladder. The man had been shot in the right flank; the ball had reached the bladder, and urine was escaping from the external wound. I enlarged that opening, and then, to secure drainage, so highly recommended, I performed the operation for lateral lithotomy, and placed my drainage-tube, which consisted of a soft catheter, into the bladder, carried it out through the flank, and my patient got well.

I had a case in which the patient had been wounded with a knife above the pubes, and below the reflection of the peritoneum over the bladder, which had been opened. I passed a soft catheter into the bladder, and out through the opening above the pubes, and the patient made a good recovery.

I believe in drainage-tubes, but not to the extent to which they are used by our old teacher Chassaignac.

I have introduced a drainage-tube into the bladder when that organ has been penetrated, and with the peritoneal cavity open. I have sewed up the opening in the bladder, and I included the mucous membrane in my sutures, and then introduced a drainage-tube into the cavity of the pelvis through the lacerated peritoneum, and my patient recovered.

If I live long enough, I shall probably perform an operation in which I shall reach into the ischio-rectal fossa, where there has been injury of the peritoneum, with probable escape of blood into its cavity. I propose to go along the side of the rectum into the ischio-rectal fossa, and so enter the peritoneal cavity, and introduce a drainage-tube. This is good surgery. So you see that it is believed that some of the surgeons here are not altogether behind the times, although the gynecologists are getting all the glory. I do not believe, however, that you, sir (Dr. Sims), get half as much as you deserve. This is a great subject; too great to be exhausted in one evening's discussion. I thank you, sir, for opening our eyes. You have said what I have never before heard, and I thank you and those whom you represent for your able paper, for what you have said, and so well said; but to the gynecologists does not belong all the glory.

Dr. Leonard Weber remarked, concerning perityphlitic abscess, to which Dr. Sims had alluded, that it was usually extra-peritoneal, and did not require any early opening of the abdominal cavity for the purpose of evacuating the accumulated pus. The only cases in which abdominal section could come into consideration were those in which abscess developed in consequence of perforation, especially perforation of the vermiform appendix. Dr. Burchard, in a paper read before the Academy, had proposed to make abdominal section in such cases, tie the appendix, cut off the diseased portion, and introduce a drainage-tube. In all other cases, particularly those in which he had operated, an operation earlier than was performed would not have

offered any advantages, because, unless the abscess was caused by perforation of the appendix, it was outside of the peritoneal cavity.

Dr. Sims, in closing the discussion, thanked the Academy and his friends for their generous attention in listening to his lengthy paper, and would particularly remember his friend Dr. Wood, who had so candidly presented his criticism from the standpoint of a justly eminent general surgeon, and also Dr. McBride, who had kindly yielded the evening in his favor.

The Academy then adjourned.

## NEW YORK NEUROLOGICAL SOCIETY.

*Stated Meeting, October* 4, 1881.

Dr. T. A. McBride, President, in the Chair.

Dr. W. A. Hammond read a paper, entitled

### SOME OF THE THERAPEUTICAL USES OF NITRO-GLYCERINE.

The speaker referred to the fact that the preparations of nitro-glycerine are very unreliable. It was important, therefore, that the physician should know what preparation his patients obtained. He thought that the best preparation was that of Boericke & Tafel. The usual dose is one drop of a one per cent. solution given on a lump of sugar. This dose ought, as a rule, to produce a sensation of fulness in the head, or a headache, when first taken.

The continuing dose must be employed: that is, the dose must be increased gradually, otherwise good results can hardly be expected. The speaker was in the habit of prescribing ℥j. t. i. d. for one month, then ℥ij. for a month, then, perhaps, ℥iij., and so continuing, modifying according to symptoms.

In the angiospastic form of *migraine*, Dr. Hammond said that he had seen some very marked effects from nitro-glycerine. It would be contraindicated in the angio-paralytic form. The speaker referred to a case in which the angiospastic form existed on one side and the angio-paralytic form on the other. A very severe case of migraine was described. Previous remedies had done no good. One drop of the nitro-glycerine was given. Pain almost instantly ceased, and in fifteen minutes the patient was up. In five days later a subsequent attack came on, but it was similarly averted. Other attacks being thus stopped, the patient was put on the drug regularly. The dose was doubled, making it two drops t. i. d. for fifteen days. She then took three drops for a few days longer. After this the patient stopped taking the medicine altogether. For nine months she has had no attacks, and it seems probable that the case is relieved. The speaker had used it in fifteen or twenty other cases of migraine, and almost universally with good effects. In the few cases where no good was accomplished, he was inclined to think he had made a wrong diagnosis.

The drug had also been used in *epilepsy*. In the beginning of an epileptic attack there is, as is well known, a spasm of the arterioles; nitro-glycerine prevents this—makes it impossible indeed. It acts similarly to nitrite of amyl, but its effect is more continuous. The speaker had given it for a year, and had gradually increased the dose to thirteen drops in one case. He had sometimes given bromides with it, and they seemed to work very well together. In the status epilepticus, and some other forms of epilepsy, when bromides are not efficient, nitro-glycerine is very effective. The case of a child who had epileptic attacks every other day was related. The disease had lasted two or three years; bromides had done no good. Nitro-glycerine was given, and since then the patient has only had a few attacks. The dose was kept at one drop three times a day. Children can bear drop-doses very well.

The speaker had used nitro-glycerine in twenty or thirty cases, and he believed that in every case it had done some good. In some cases it had stopped them permanently, or so it seemed.

In angina pectoris, or cases which he believed to be such, the nitro-glycerine had been used. In two cases where the drug was given, the attacks did not continue so long as the medicine was taken.

Dr. Lente asked whether if a good preparation was obtained it would keep?

Dr. Hammond said that it would not change if the bottles were kept corked. It was volatile, but underwent no chemical change so far as he knew.

Dr. Lente asked if thirteen drops three times a day was the largest dose Dr. Hammond had given, and was informed that it was. Dr. Lente said that he did not think the bromides and nitro glycerine had any antagonistic action (as Dr. Hammond seemed to think). Dr. Lente thought it the general belief now, that the action of the bromides was not on the circulation but on the nervous tissue itself.

Dr. J. C. Peters said that he was familiar with the action of nitro-glycerine when it was first introduced twenty years ago. He was then treating angiospastic migraine with conium, and the other form with nux vomica. He had used nitro-glycerine by inhalation, using the pure drug (which, it was suggested, must be dangerous). He had not got satisfactory results with nitrite of amyl in angina pectoris. Some illustrative cases were then related.

A Garfield Memorial Hospital.—A project which deserves the highest praise has recently been set on foot in Washington. It is that of erecting a hospital which shall perpetuate the memory of the late President Garfield. The most prominent citizens of Washington have been enlisted in the project, and there seems little doubt of its ultimate success. A meeting definitely organizing the plan was held on October 5th. The following account of its proceedings will show the interest that has been aroused regarding the matter:

The meeting organized by the election of the following officers: Chairman, Mr. Justice Miller; Vice-Chairmen, the Hon. Thomas L. James, the Hon. George B. Loring, the Hon. William Lawrence, Judge William Strong, Judge D. K. Cartter, Commissioner Dent, W. W. Corcoran, Gen. Eppa Hunton, Prof. Spencer Baird, and John W. Thompson; Secretary, John A. Baker; Treasurer, the Hon. James Gilfillan. Justice Miller stated the object of the meeting, and the applause which followed attested much feeling on the subject. The Hon. A. G. Riddle, of Ohio, delivered an eloquent address, and a committee on resolutions was appointed. The Chairman, Mr. A. S. Solomons, soon reported, and recommended the appointment of an executive committee of twenty-five persons to adopt the necessary means to carry out the object of the meeting, which was adopted. It was announced that subscription lists would be prepared by the committee, and that the whole country and foreign nations would be asked to place the memorial hospital on a broad national and international basis of common humanity.

# Correspondence.

## CONCERNING HYPNOTISM.

To the Editor of the Medical Record.

Sir: The letter from Dr. William A. Hammond, which appears in the last issue of your journal, entitled "A Word for Dr. Beard," suggests to my mind some thoughts in connection with the subject of hypnotism, which I hope you will kindly allow me to express through your columns.

Dr. Hammond expresses "surprise and regret" at the criticisms of Dr. Beard's experiments, made before a medical audience at the Waterloo Hotel, in London, by Dr. J. Crichton Browne, and published in the *British Medical Journal* of August 27th.

I wish it understood that in this letter I have no desire to call in question the veracity of either Drs. Beard, Hammond, or their subjects, or to express my opinion of the motives which has prompted these gentlemen to agitate the subject of hypnotism for the past year in this city, but only to state the facts which I have obtained by a careful study of the subject, and to note the observations made at the different public and private exhibitions given by these gentlemen in New York.

It is difficult for me to understand how Dr. Hammond should be so surprised at Dr. Browne's strictures of Dr. Beard after his own experience with these same experiments and "trained subjects" before the New York Medico-Legal Society. At the last April or May meeting of the above society, it was announced that Dr. Hammond would read a paper on the "Medico-Legal Relations of Sygignocism," the latter term having been coined by him to take the place of hypnotism.

After explaining the etymology of the term, he proceeded to give a physiological explanation of the condition of the brain during trance, which was purely hypothetical, and must have originated in his own imagination.

Then, to prove to the society that a person entranced was not legally responsible for his acts, he arranged chairs so that they were to represent a house, in an upper story of which there was a sum of money, and which was to be entered by the basement, a space under the bottom chair representing the basement door. He then pointed his finger at the subject in the usual way and he became at once entranced, and, upon being told by Dr. H. of the presence of the money in this improvised house, the young man crawled under the bottom chair and brought away an imaginary sum of money, which he stupidly tried to hide on the stage, and also denied having stolen any. He later pointed out a man in the audience and directed the subject to murder him, which he attempted to do with a paper dagger or other harmless weapon. Another experiment was to have the subject rest his heels and occiput on the backs of two chairs with the body extended.

At this juncture, Dr. Birdsall, an able young physician of this city, went forward and did the same thing, and when he had let himself to the floor, he simulated the symptoms of trance, and Dr. Hammond announced to the audience that "the man is entranced." Birdsall soon rose to his feet, laughing at the ruse.

To prove that these subjects were anæsthetised, he pricked them with needles, and to show the absurdity of such a test, I myself went forward and allowed Dr. H. to lock a pair of bull-dog forceps on the lobe of my left ear, and I am prepared to offer to Drs. Hammond or Beard that, with one month's notice, I will agree to go through with all the experiments they have done on their trained subjects, without pretending to be in other than my normal condition.

Another meeting was appointed by the society for further discussion of the subject, at which Dr. Hammond was conspicuous by his absence.

This discourse of Dr. Hammond's, with the discussion, has not been publishedin the "Bulletin" of the society.

I have witnessed many other public and private exhibitions of these "trained subjects," and they have all been alike absurd.

As Dr. H., in his letter, has used the word "insult" in connection with Dr. Browne's statements, I will also use it, and state that I consider it an insult to an intelligent audience to offer such evidence in proof of the existence of a state called trance.

John H. Girdner.

45 West Thirty-first Street, N. Y.

## THE DISCHARGE FROM THE LATE PRESIDENT'S EAR.

Did it arise from the Suppurative Process in the Parotid Gland, or from Otitis Media Purulenta?

To the Editor of the Medical Record.

Sir: The writer's attention was drawn, during the President's illness, to the statement made in the official noon-bulletin of August 26th, that "At the morning dressing of the President it was observed that pus from the parotid swelling had found its way spontaneously into his right external auditory meatus, through which it was discharging." This announcement of the establishment of an otorrhœa, without any allusion to the possible existence of previous aural inflammation, induced me to watch the progress of the case with increased interest, and I had hoped, that when the results of the post-mortem and the history of the case had been given to the public, that some further explanation of the phenomenon might be found. Other mention of the aural discharge than that given in the official bulletins having been omitted, the history of this important case remains imperfect unless some light can be thrown on the subject from a study of the history as it has been given. With such an object in view, I therefore beg you will allow me space in your columns for a brief review of this feature of the case.

It seems that the swelling of the parotid gland was first observed by the surgeons in charge of the case on August 18th (Dr. Bliss's report of the case, Medical Record, October 8th, p. 396), and suppuration was not thought to be impending until the afternoon of August 24th, when an incision into the swelling was followed by the liberation of a small amount of pus. On August 26th, the discharge of pus from the ear alluded to at the beginning of this communication took place; for several nights previous to this event "mental confusion" had existed, but afterward the mental disturbance ceased. Dr. Bliss states in his report above alluded to that "when the climax of suppuration (referring to the parotid gland) was reached, a free discharge of laud-

able pus followed, with a rapid abatement of the more urgent symptoms." Now it will be observed, by referring to the official bulletins, that only a small quantity of pus was evacuated when the first incision was made on August 24th, and that suppuration was at no time reported as "free" until August 28th. Relief seems rather to have followed the discharge from the ear, than the establishment of free suppuration two days later. We have a confirmation of this view of the case not only in the disappearance of the cerebral symptoms, but in the state of the circulation; the pulse, which had been about 108 from the time the parotid swelling was first noticed on August 18th, rapidly ascended from August 24th—the date of the first incision—until August 26th, when it reached 120, where it remained for about twenty-four hours, and then rapidly fell again to about 100 to 108, at which point it remained. The exacerbation in the symptoms observed at this time could, it would seem, be accounted for by the existence of an acute inflammation of the middle-ear, a discharge from which, through rupture of the membrana tympani, was promptly followed by decided relief.

It has been the belief of the writer since first reading the account of the aural discharge, that the inflammation of the parotid gland was the cause of an aural inflammation through nervous sympathy, as is frequently seen in mumps, and that the cerebral phenomena which occurred during the period immediately preceding the purulent discharge from the ear, were owing to the intimate relations that exist between the middle ear and the brain.

The writer, in a very considerable experience in surgical diseases of the ear, has never known of the passage of purulent matter from the region of the parotid gland into the external auditory canal, and, judging from the density of the cartilaginous walls of the canal, it would require a much longer period of time for their perforation than was afforded in this case.

Another evidence of middle ear disease having existed in this case was the occurrence of Bell's palsy during the period under consideration; this symptom, of course, may attend swelling in the parotid region should the facial nerve receive injury from the swelling, but such a result is unusual in the writer's experience, whereas, facial paralysis is *not* uncommon during the course of middle-ear affections, from pressure on the nerve in its course through the Fallopian canal.

As is well known, in the more grave cases of metastatic parotitis, especially when gangrene occurs, the facial nerve may be greatly injured, and cases have been reported where pus has found an exit through the external auditory canal. But in the case before us the swelling of the gland was by no means great, which lessens the probability of pus having forced its way into the external auditory meatus, or of the nerve having been injured by the swelling of the gland.

The writer confesses that his surmises may be erroneous, and, indeed, he can scarcely imagine that a thorough examination of the ear was not made during the time that so much disturbance existed in its immediate neighborhood, for treatment of that most painful affection—otitis media purulenta—in its early stages may greatly relieve the patient's sufferings. * * *

New York, October 18, 1881.

A Hospital at Cornell.—The late Mrs. J. M. Fiske has left $40,000 to establish a hospital at Cornell for the benefit of the students.

## DECREASE OF SIZE OF HEAD.

To the Editor of The Medical Record.

Sir: In a late number of the Record there is a short article, "Science and the Hatters," in which it is said that the discovery has been made that the human head, contrary to the accepted doctrine of evolution, was decreasing in size. For several reasons it is probably more in appearance than in reality. The very extensive substitution of the soft and flexible hat of the present period for the hard, stiff, round, bell-shaped, or stove-pipe hat of a former time enables all who wear the soft hat to use a much smaller number, with equal or superior comfort. In the next place, the frequency of alopesia will account for a great reduction in the size of hats. Baldness was at one time an exception, now it is the rule even with the comparatively young men of the present age. The hard hats are now made in many cases to fit the cast of the head, which will reduce the size considerably. And may not mastication of food, in improved modern cookery, have some effect upon the growth and development of the origin of the masseter muscle? In the next and last place, mental culture will naturally tend to increase the growth and development of the frontal and superior (cerebrum) portion of the brain, at the expense of a corresponding decrease of growth and development in the occipital (cerebellum) portion of the contents of the cranium, thereby reducing the size of the head in the antero-posterior diameter, when there may be an increase in the weight and volume of the same when taken altogether. If in truth there is a real reduction in the size of the human head, aside from what appears to be from the change in hats and baldness, it might be well to give the subject a thorough investigation. But I am clearly of opinion that the decrease is more in appearance than reality.

A. G. Smythe, M.D.

Baldwyn, Miss.

The Work of the Sanitary Inspectors in New York.—Assistant Sanitary Superintendent Janes made a report to the Board of Health October 4th, giving a summary of the work done by the summer visiting corps of physicians. During the five weeks ending August 17th, the whole number of houses visited was 22,627, containing 129,625 families. The whole number of cases treated was 5,185, and 4,954 excursion tickets were distributed. Nearly one-half of the cases found are arranged under the head of diarrhœa, and number 2,488. There were 639 cases of cholera infantum treated. These two diseases were more generally found in the crowded tenement-house districts, while malarial affections, being the next in frequency, were more generally met with in the upper and more sparsely settled districts. Of these affections there were 274 cases, including malarial dysentery. There were also 105 cases of bronchitis, 83 of difficult dentition, and 52 of what was reported as gastric derangement. The contagious diseases met with were as follows: Whooping-cough, 76; measles, 36; diphtheria, 11; and scarlatina, 28.

Statistics of Nephrectomy.—According to Dr. Barker (*Lancet*, April, 1881), the number of cases on record is 54; recoveries 26, deaths 28. In eleven of the cases a wrong diagnosis was made. The lumbar operations show rather better results than those in the linea alba.

# Obituary.

## DR. CHARLES B. WHITE,

SURGEON AND MAJOR U. S. A.

Dr. Charles B. White was born in New York City, September 12, 1837, and was the son of Dr. Ambrose L. White, who practised here for thirty-five years. His alma mater, the College of New York City, conferred on him the degree of A.B. in 1854, A.M. in 1857, and he graduated from the Medical Department of the University of the City of New York in 1859. He then became house physician to Bellevue Hospital, 1860–61, and entered the United States army as assistant surgeon at the commencement of the War of the Rebellion in 1861. His first service was at Fortress Monroe, Va., where he remained until the peninsular campaign, when he obtained field duty. On one occasion he and his horse were enveloped in dust and dirt by a shell, and were supposed to have been killed, but fortunately both came out uninjured.

After the battle of Malvern Hill, it was necessary for several surgeons to remain with the wounded, and volunteers were called for. Dr. White, observing hesitancy, was among the first to offer his services. At this stage of the war no consideration was shown to medical officers, and he consequently became a prisoner.

He returned to the Army of the Potomac, serving in the several actions, till after the battle of Fredericksburg, Va., when he took charge of the General Hospital at Pittsburg, Pa.

He afterward served in the West and Southwest, and was made Acting Medical Purveyor at New Orleans, La., and during an epidemic of yellow fever at Jackson Barracks, he was a volunteer medical attendant.

What was to him an imperative duty was attended with, on this as on many other occasions during his service, great sacrifice. His conscientious ideas of personal responsibility was such, however, as never to deter him from facing either the dangers of the battle-field, the sufferings of prison life, or the ordinary terrors of pestilence.

Dr. White's conduct at Malvern Hill and Jackson Barracks speaks volumes. His subsequent service in the army was respectively at Fort Schuyler, N. Y.; Camp Independence, Cal.; Columbus, Ohio.

His last post was at the latter place. Here commenced the development of an adeno-sarcoma in his left axilla, which eventually caused his death.

His friend, Dr. J. W. S. Gouley removed the growths from his left axilla, September 21, 1878, assisted by Drs. McParlin, U. S. A., W. T. White, Z. E. Lewis, and T. L. White. There was a marked indication of return of the disease toward the close of the past year. Last spring he again presented himself to Dr. Gouley, who, after counsel with other skilled surgeons, in and out of the army, concluded it was unwarrantable to operate.

During the later months of his life he suffered the agonies of martyrdom, consequent upon the involvement of the nervous trunks in his axilla, but quietly, patiently, and resignedly he awaited the hour of his release, and died August 10, 1881, at his residence, Wilton, Conn. His widow, three daughters, and two sons survive him.

The type of an honorable gentleman, of a faithful worker in his profession, and of a consistent Christian, he has left behind him the enviable record of services which, in every sense, were "well done," with a single eye to the performance of the highest duties toward God and man, and he has his reward.

## ARMY NEWS.

*Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from October 9, 1881, to October 15, 1881.*

Magruder, D. L., Major and Surgeon, Medical Director Dept. of the Missouri. Granted leave of absence for one month. S. O. 207, Dept. of the Missouri, October 11, 1881.

Woodhull, A. A., Major and Surgeon. Granted leave of absence for four months. S. O. 227, A. G. O., October 7, 1881.

Jaynett, G. P., Major and Surgeon. Granted leave of absence for one month. S. O. 231, A. G. O., October 12, 1881.

Koerper, E. A., Capt. and Asst. Surgeon. Assigned to duty at Plattsburg Barracks, N. Y., as Post Surgeon. S. O. 180, Dept. of the East, October 7, 1881.

Corson, J. K., Capt. and Asst. Surgeon. Confirms telegraphic instructions of this date, directing him to report to the Com. Officer, Battalion Fourth Artillery, at Fort Yuma, Cal. S. O. 114, Dept. of Arizona, October 5, 1881.

Harvey, P. F., Capt. and Asst. Surgeon. Granted leave of absence for twenty-five days, to take effect on adjournment of the G. C. M., of which he is a member. S. O. 182, Dept. of Dakota, October 5, 1881.

Cowdrey, S. G., Capt. and Asst. Surgeon. Granted leave of absence for four months. S. O. 228, A. G. O., October 8, 1881.

Robinson, S. Q., First Lieut. and Asst. Surgeon. Granted leave of absence for four months. S. O. 228, A. G. O., October 8, 1881.

# Medical Items and News.

Contagious Diseases — Weekly Statement. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending October 15, 1881.

| Week Ending | Typhus Fever. | Typhoid Fever. | Scarlet Fever. | Cerebro spinal Meningitis. | Measles. | Diphtheria. | Small-pox. | Yellow Fever. |
|---|---|---|---|---|---|---|---|---|
| Oct. 8, 1881. | 0 | 18 | 60 | 3 | 10 | 76 | 11 | 0 |
| Oct. 15, 1881. | 0 | 46 | 75 | 4 | 6 | 88 | 5 | 0 |

Dr. John Buchanan Again in Court.—"Dr." John Buchanan, who has just undergone a sentence of ten months in the Eastern Penitentiary, which was imposed upon him by the United States Court for having conspired, with others, to defraud the court out of the amount of his bail, was brought into court in charge of the prison authorities, on a writ of *habeas corpus*, for sentence upon a plea of guilty in the

Quarter Sessions to the charge of issuing bogus diplomas. As his counsel was out of the city, sentence was deferred, and the defendant was given into the charge of the keepers of the county prison.

PROFESSOR VIRCHOW IN POLITICS. — One of the greatest Liberal meetings ever held in Berlin took place on October 6th. It was in support of Virchow's candidature for the Reichstag.

OPIUM-SMOKING IN AMERICA.—Four thousand is a moderate estimate of the total number of native American victims to the opium habit, and these, it is estimated, consume one hundred grains of the drug a day. This gives a daily consumption of four hundred thousand grains, or about nineteen thousand pounds during the year. About three drams of the smoking opium, equivalent to six drams of the crude drug, make the average quota of a day's consumption, and this much costs from fifty to seventy-five cents. Some who go to perpetual excess, however, have been known to consume as much as one and one-fourth pound during a day. Taking the average, however, it will be found that the man who hankers after the deleterious and short-lived enjoyment of the drug can gratify that foolish taste only at an expense of $200 a year, and the combined indulgence of all American opium-smokers will be found to be carried on at a cost of over three-quarters of a million of dollars yearly. And yet this waste is constantly being increased and the ranks of the fools multiplied, notwithstanding that in some States and cities stringent laws, with penalties of heavy fines and imprisonment, have been resorted to to stay the hurtful progress of the habit. Arrests are constantly made in San Francisco under a city ordinance, but, seemingly, without avail, and the vigorous legal prohibition of Nevada effects but little, if any abatement of the evil. The importations of smoking opium into America have steadily increased during the last ten years. The number of Chinese smokers in the country is estimated at 10,544, and, calculating upon the same estimate as in the American cases, they consume 50,240 pounds of this drug in a year. Combined, the consumption reaches the startling figure of 69,240 pounds, making the cost for the total indulgence the enormous sum of over $2,900,000. A quantity of the opium used is also smuggled, and is not included in the above estimate, and some of it also is impure. The injurious effect of this consumption is thus increased greatly, being bad enough when the pure drug alone is employed, as it leaves 33 per cent. of ash, six grains only of which is enough to paralyze a rabbit when hypodermically injected. The last point to be noted is that the repulsive spectre of the emaciated cadaverous creature to be found everywhere among Chinese votaries is seldom, if ever, seen among American opium-smokers. Nor, again, is the smoking of the drug so injurious a manner of introducing it into the system as the method of eating it or injecting it hypodermically. —*Times.*

A SUPPLEMENTARY BLADDER.—Dr. L. R. Dibble, of Albion, Michigan, sends us a case of a man, aged seventy years, who was afflicted with phimosis for twelve years, and whose foreskin became pouched in consequence of difficult micturition. When this pouch was distended it measured nine inches in circumference. The patient would pass his urine into this pouch, and then relieve the distention by a milking process. Circumcision effected, of course, a complete cure.

OPIUM-SMOKING AS A THERAPEUTIC MEASURE.—There is morally and medically as great a difference between him who uses morphia hypodermically, or opium by the mouth, and him who smokes opium, as there is between the man who drinks raw spirits and absinthe "by himself" and him who takes his wine or beer in company.

I am led to believe, from what I saw, that opium-smoking may become an important therapeutic appliance in many cases of distressing thoracic affections, particularly in irritable phthisis and bronchitis. The great objection is, that it may become an inveterate habit.—Cor. *Chicago Med. Review.*

DR. S. H. WEEKS, of Portland, has been appointed by the Maine Medical School to the chair of Surgery, made vacant by the death of Dr. William Warren Green. Dr. Frederick Henry Gerrish, of Portland, was appointed lecturer on Anatomy, and Dr. Charles O. Hunt, of Portland, lecturer on Materia Medica and Therapeutics.

A MUCH-NEEDED REFORM.—The average medicine-chests on board of merchant ships are a disgrace to the vessel, the men who put them up, and to the age we live in. They, for the most part, contain the poorest of drugs, which are sold at exorbitant prices, put up in the slouchiest manner, and are accompanied by a small book of wretchedly prepared medical bosh. The Marine Hospital Service should indicate officially what should be the contents of a ship's medicine-chest, and should prepare a proper work, simple in its language, and shorn of high-sounding phrases unintelligible to the average seaman, to accompany the chest. This work should in part be devoted to simple instructions in surgery, and the medicine-chest should be supplied with some of the lesser surgical instruments.—*Nautical Gazette.*

STORIES OF DR. NÉLATON.—The *XIXe Siècle* relates of Dr. Nélaton that he was accustomed to say: "If you have the misfortune to cut a carotid when performing an operation, remember it takes two minutes for syncope to supervene, and as many more before death occurs. Now, four minutes are four times the time required for a ligature, provided you don't hurry yourself—never hurry yourself."

The *Temps* says: "It is related that, when he began his studies, he worked with such ardor that he often refused himself the time necessary for sleep. He procured a plank some five or six feet long and forty centimetres broad, the extremities of which he placed on two chairs. He lay upon it, holding his book open above him. It is said that in this position the need of sleep is less readily felt. When, despite him, his eyes closed and the book fell, the shock disturbed his balance and he followed the book. The shock aroused him, and he got up and began his work again."

METASTATIC PAROTITIS.—J. Brooke, Assistant Surgeon United States Army, writes: "In connection with the article by Dr. Page on 'Metastatic Parotitis,' in the RECORD of September 10th, the following case may be of interest. It occurred several years ago, and only the prominent points are recollected by me now.

"A man of middle age was kicked in the abdomen by a horse. I saw him a few hours after, and found no external marks of violence, but decided evidences of severe shock, such as cool skin, anxious expression, etc. Reaction occurred, and was followed by

moderate symptoms of inflammation of the peritoneum to a limited extent.

"Soon the *right* parotid gland began to swell, and went on rapidly to suppuration. The pus was evacuated, but the discharge continued to be very profuse for a long time, until the gland appeared to be almost entirely destroyed.

"The facial nerve, where it passes through the gland, was either destroyed in its continuity, or otherwise permanently damaged, for complete paralysis of the muscles of that side of the face soon appeared, and continued after recovery was otherwise complete.

"I saw the man some five years afterward. He was then in good health, but there was not the slightest improvement in the paralysis."

DIPHTHERIA STILL RAVAGING RUSSIA.—The Russian journals publish terrible details of the diphtheria now epidemic in Russia. It is reported that in certain communes and parishes all the children under fifteen years old have died. The origin of the attack dates from 1872, when the disease first appeared in Bessarabia. Since then it has spread far and wide over the south of the empire, whence it lately began to make rapid progress toward the east and northwest. In Pultawa, a province of considerably less than 2,000,000 inhabitants, there have been 45,543 cases, of which 18,765 were fatal.

REMARKABLE WOUNDS OF THE STOMACH.—Dr. A. Dunlap, of Springfield, Ohio, communicates the following interesting and instructive case:

"In 1869 I had a case which exhibited the wonderful tolerance with which the peritoneal cavity bears wounds. I was called to a young man, aged twenty, robust constitution and uninterrupted good health. He had fallen with his stomach on a rapidly revolving shaft, just where it was fastened by a half-inch iron bolt, the bolt projecting about an inch. His clothing caught and held him tightly against it, whilst the revolving bolt cut the wall of the abdomen and the stomach, drawing the latter out of the cavity, and making a wound five inches long in the wall and four and one-half inches in the stomach. It occurred just after he had eaten a hearty meal. I saw him about an hour after the accident. There was no appearance of shock in his pulse, nor of pain in his countenance. The stomach was partly drawn out of the wound, also a very considerable portion of the left lobe of the liver. The former was partially emptied of its contents, but none had entered the abdominal cavity: the food that remained was just as he had eaten it. The bleeding had entirely ceased, and there was trickling from the rent in the organ a perfectly clear fluid. In about another hour I had a physician (and chloroform) to assist me in dressing the wound. After giving him chloroform, I took the stomach up in order to empty it completely, but the chloroform sickened him, and he began to make efforts to vomit. I could feel the vermicular motion of the stomach as I held it, the pyloric orifice approaching toward the cardiac. The muscular contractions gaped the wound, and the pyloric orifice was forced out until it came plainly to view, the stomach being almost completely turned wrong side out. After several efforts at vomiting, the contents of the duodenum began to come in jets. It was of that dark, bilious color which we see in vomiting from an empty stomach. After the vomiting ceased, I cleansed the stomach, and accurately stitched the edges of the wound in that organ to the edges of the peritoneum of the wound in the wall of the abdomen by closely applied interrupted sutures, and then closed the wound. He came from under the chloroform without any appreciable shock. For thirteen days the pulse never rose above ninety, and only a slight increase in temperature. There was no pain or tenderness over the abdomen. The peritoneum united rapidly, and the stitches came away, and left a healthy granulated surface. But the patient was rapidly weakening. The food taken was sufficient to nourish him, and was digested, as I could see it through the large opening remaining in the walls; but it was forced out through this gap by the action of the stomach, and not down into the duodenum.

"He remained bright and cheerful with all these symptoms, till the thirteenth day, when he had a large watery stool. His pulse immediately rose from 90 to 120, and then to 140. In six hours he had another evacuation, and in a few minutes died in collapse. His friends refused a post-mortem examination. The man certainly did not die from inflammatory action, but from rapid exhaustion and the collapse caused by the large watery stool. The extensive surface of the stomach that had become adherent to the walls of the abdomen prevented the vermicular motion from passing the nourishment into the duodenum.

TRI-STATE MEDICAL SOCIETY will hold its seventh annual meeting at St. Louis, October 25th, 26th, 27th, 1881.

THE DIFFICULTY IN FINDING A BALL IN THE DEAD BODY.—Dr. Wooster Beach, of this city, whose extensive experience in autopsical examinations is worthy of great respect, says:

"Some of our wiseacre scribes of the daily press, and, it may be added, a few medical men in the President's case, have insisted that an attempt should have been made to extract the ball at some time during the course of treatment.

"Having had a very considerable experience in autopsies, it has fallen to my lot to trace the course and discover the location of many pistol-balls in the dead body. In some cases this is by no means an easy task. Through certain tissues the mark left by the passage of the ball closes up so as to be almost imperceptible. Coagulated blood in recent cases, and the products of inflammation in old ones, burrow into parts near the track, and so disturb or obliterate it as to make it impossible to judge by its means the course taken by the ball.

Its final location is often quite as difficult to find, and in some cases cannot be discovered except by removal of quite a large part of the body where it is supposed to be, and thoroughly mincing it. I have frequently spent hours in such an endeavor, and in one or two cases have not been able to find the ball at all.

Persons inexperienced in making such *post-mortems* may ascribe my want of success to a lack of skill. On this point I am willing to abide by the judgment of those who have had practice in this kind of work.

If the difficulty of discovering the course and location of a ball may be so great in a dead body, where we may cut, tear, or even entirely remove organs at pleasure, would it not be insanity to attempt the removal of the bullet from a living person, when its exact seat was unknown, or even uncertain?"

MEDICAL FEES.—Dr. Samuel W. Francis' advice is, "Temper the wind to the shorn lamb," but *shear* the lamb!

# Original Communications.

## INJURIES TO THE HEAD,

### Followed by Lesions of the Spinal Cord, Cerebral Symptoms being either Very Slight or Entirely Wanting.

By L. PUTZEL, M.D.,

Neurologist to Randall's Island Hospital.

Case I.* —Jeremiah M——, forty-two years of age, born in Ireland, laborer, married; admitted to Randall's Island Hospital, May 20, 1881. The family history is unimportant.

*Previous history.*—The patient has been a moderate drinker since the age of twenty years; he gives no venereal history, and always enjoyed good health. Ten weeks ago, while loading wood on one of the docks, a stick was thrown out of the vessel, striking him on the top of the head. He was rendered unconscious, and remained so until the next day, having been taken in the meantime to the New York Hospital. When consciousness returned, there was complete paralysis of the limbs, with partial paralysis of the left side of the face; the patient could not articulate distinctly, and the tongue seemed thick and unwieldy; there was complete abolition of sensation below the neck, but the face was normal in this respect; the special senses were not affected. The bladder and bowels were normal. During the first two weeks there was severe headache, but this gradually diminished and then disappeared. At the end of the second week also, motion and sensation began to return in the limbs. The patient got out of bed at the end of three weeks, and was able to walk by holding to the bed-post; within four to five weeks he improved to such an extent that he could walk, though very poorly, without any support; gradual improvement continued until his admission to this hospital.

*Present condition.*—The patient is a large, muscular man, appetite good, sleeps well; mental powers unimpaired. Nothing abnormal was discoverable in the cerebral nerves. There is slight rigidity of the muscles of the legs in walking, most noticeable on the left side, with a perceptible stiffness in the gait; the left leg does not bend at the knee on walking, and the feet are dragged stiffly over the floor; there is loss of power in both hands, the dynamometer being forced to 48 in the right hand and 30 in the left; there is diminished power in both legs, most markedly in the left; there is no appreciable atrophy of the limbs; the electrical reactions are normal to both currents in all the muscles.

Sensation is normal in the right arm; it is diminished in all its varieties over the left arm and leg, and also the right leg. Sensation to touch and heat is abolished over the anterior and outer surface of the right thigh, and the right gluteal and iliac regions; sensation to pain and cold are merely diminished in these regions.

The cutaneous and patellar tendon reflexes are increased in both legs, but much more markedly in the left. Ankle clonus is present on the left side, but not on the right.

Physical examination of the viscera furnishes entirely negative results.

September 17th.—The spastic gait is more marked than upon admission (greater stiffness of the legs on walking, and the soles of the feet dragged and scraped more markedly along the floor). In addition, beginning contracture is found in the flexor muscles of the forearms, especially on the left side; increased tendon reflex of the flexor and extensor muscles of the forearms; there is a feeling of coldness over the anterior and outer surfaces of the right thigh and right gluteal and iliac regions, and both feet and ankles. In other respects the condition of the patient is unchanged.

Case II.—Thomas R——, aged fifty-five years, sailor, admitted to the hospital, July 14, 1880. The family history is unimportant.

*Previous history.*—The patient has been a hard drinker for the past ten years; had gonorrhœa several times, but no other venereal disease; he was never sick (save from drunkenness) until the accident which led to his present condition. Two years ago he fell from a ship's foremast-head to the deck, striking on the right side of the forehead and the right shoulder. He was picked up unconscious and taken to St. Vincent's Hospital; does not know how long the unconsciousness lasted. Upon recovering his senses, there was general and complete paralysis below the neck. There was no facial paralysis, but, for the first two weeks, speech was so much affected that he could not speak distinctly, although he could talk aloud; the front teeth of the upper jaw were knocked out, and those of the lower jaw loosened. He states that sight, audition, gustation, and olfaction were not affected; the action of the bladder and bowels remained normal. He was in the hospital a month, improving very little during this time. After returning home, he began to improve, and in three months was able to walk a little, the legs improving much more rapidly than the arms. He continued to improve for five or six months, when he began drinking again, and at once grew worse, the paralyzed limbs, especially the legs, becoming weaker and stiffer. The patient continued growing worse for three months, at the end of which time he could scarcely stand. He was admitted to Randall's Island Hospital on July 14, 1880. During the first three months after his admission he suffered from diarrhœa, but there has been a tendency to constipation since that time; the power of micturition has always been normal. He was able from the first to feel distinctly, though not in an entirely normal manner, in the paralyzed parts. Of late he has noticed that the hands and fingers cannot be readily extended, and that the foot is flexed with greater difficulty; he has spasms in the muscles of the legs at night. The patient spat blood for some time after the fall, and also four months ago; he has had a cough for some time and lost thirty-five pounds in weight; never had night-sweats.

*Present condition* (July 14, 1881).—The patient is lean and somewhat emaciated; appetite moderate; no night-sweats, but an annoying cough; sleep disturbed on account of cramps in the legs; bladder normal; bowels very constipated. Nothing abnormal is discoverable in the cerebral nerves.

Physical examination of the lungs furnishes the following signs at the apices: increased vocal fremitus, dulness, increased vocal resonance and bronchial whisper; the expiratory sound is raised in pitch, prolonged, and is tubular in character; mucous râles are heard after coughing. These signs

* For the records of the following cases I am indebted to the kindness of my house physician, Dr. T. S. Axtelle.

are most marked on the left side. The other viscera present nothing abnormal.

Upon directing the patient to walk, his body is found to be bent forward, the legs being slightly flexed at the knees and quite stiff. The limbs maintain this stiffened position during locomotion, the soles of the feet being dragged along the floor and never raised. There is also a less degree of stiffness at the hip-joints. Upon attempting to stand on the toes, clonic contractions are excited in the muscles of the calves, rendering the performance of the act impossible. The patient states that this spastic condition of the muscles has existed for the past two or three months, and is gradually progressing. There is diminished muscular power in both legs, but most markedly in the left; both feet can be extended on the legs, but the power of flexion is weakened, especially in the left foot; the left leg is more rigid than the right. Pain is felt in the knees on rising, and in the lumbar region; there is also a constant, dull pain along the course of the sciatic nerves and their branches; the legs always feel cold.

The hands and fingers maintain a position midway between flexion and extension, giving them somewhat of the bird's claw appearance. The arms and forearms are freely movable. There is a spastic condition of the flexors and extensors, especially of the former; flexion and extension of fingers are interfered with, the latter most markedly. The index fingers fly back like a spring, after they have been flexed or extended. The patient can pick up a pin clumsily and write indifferently. There is very little more than the normal difference in the measurements of the limbs on the two sides of the body, though there is more loss of power on the left side than the right.

Tactile sensation is slightly diminished throughout the body below the lumbar region, and about equally on the two sides; it is markedly diminished in the forearms and hands, especially over the posterior surface of the forearms, the dorsal surface of the hands and the tips of the fingers. Sensation to pain is also diminished over these regions; it is increased in both legs, most markedly in the left. Sensation to heat and cold is diminished over both lower extremities, especially on the right; it is also diminished over the forearms and hands, about equally on both sides, but chiefly on the posterior aspect.

The cutaneous reflexes are markedly increased in the lower limbs. Patellar tendon reflex and ankle clonus are exaggerated in both limbs, chiefly in the left. Hamstring clonus is present on the left side, but not on the right; adductor and cremaster reflexes are present on both sides; there is increased tendon reflex of all the flexors and extensors of the forearms.

September 14, 1881.—Very slight changes are noticeable from the date of last report. The cutaneous and tendon reflexes throughout the body are somewhat increased. There is greater diminution of tactile sensation and of sensation to pain over the posterior surface of the forearms and the dorsal surface of the hands and feet; hyperæsthesia of palms of hands and soles of feet, and also, to a less degree, of the inner surface of the legs. Otherwise the sensations remain as before.

There is increased contracture of the flexor and extensor muscles of the forearms and of the calves of the legs, causing the characteristic "spastic gait" to become more marked. In other respects the condition of the patient was unchanged, and he soon left the hospital.

These cases are interesting on account of their rarity, and very few analogous ones can be found in medical literature. An analysis of the symptoms serves to show that, although the injury was sustained by the head, the cerebral symptoms were of a mild and temporary character in the first case, and almost entirely absent in the second, and could be satisfactorily explained either by simple cerebral concussion, or the formation of a few minute hemorrhages in the brain, the effects of which soon disappeared. In fact, the entire group of symptoms may be satisfactorily accounted for on the view that a hemorrhage occurred at the time of the accident in the cervical portion of the spinal cord, this lesion being followed by myelitis in the neighborhood of the clot and by descending degeneration in the lateral columns of the cord.

Duret has shown by physiological experiments that blows upon the forehead and vertex are apt to be followed by hemorrhages in the medulla oblongata, and sometimes in the spinal cord. Westphal, in his experiments on the production of epilepsy in animals, has also shown that blows upon the vertex give rise to hemorrhages in the medulla oblongata and upper portion of the spinal cord. Why the brain, in the cases under consideration, apparently escaped with such slight injury, we are unable to state, but in another case under my observation (the notes of which I have unfortunately lost) the cerebral symptoms were even less marked. The patient in question, a man about forty-five years of age, while diving in the water, struck his forehead against a log and was dragged out in an unconscious condition. The unconsciousness lasted for two or three hours, and when the patient recovered his senses, he found himself paralyzed in all the limbs, no cerebral symptoms whatever being present. Within a couple of days afterward the paralysis of the lower limbs had entirely disappeared, the sole remaining symptom being a cervical paraplegia. Shortly afterward the patient came under my observation, and I discovered a moderate degree of paralysis of the upper limbs, with slight and uniform atrophy of the affected muscles, and slight diminution of faradic muscular excitability; in addition there was a feeling of numbness in the hands, but no appreciable anæsthesia; he also had some tenderness over the middle of the cervical spine. In other respects the patient's condition was entirely normal, and he made a complete recovery within a couple of months under the use of counter-irritation to the cervical spine, faradism to the paralyzed muscles, and ergot and iodide of potassium internally.

In this case, also, there can be no doubt that the injury to the cranium had been followed by a hemorrhage into the cervical cord, although the brain had apparently escaped without injury.

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Fecundity of Elephants in Confinement.—Barnum's baby elephant, born at Philadelphia, is growing rapidly, and is a vigorous creature in its third year. Its mother is again about seven months along in pregnancy, and it is therefore not unlikely that a second one will be born in this country. The sexes in Barnum's herd of elephants pair readily in confinement. We learn on good authority that an American resident in India of thirty years, never heard of an elephant being born there, and was astonished at learning of the birth of one in the United States.—*Am. Naturalist.*

## JARVIS' OPERATION IN HYPERTROPHIC NASAL CATARRH.

### With Report of Three Cases.

By CARL SEILER, M.D.,

LECTURER ON LARYNGOLOGY AT THE UNIVERSITY OF PENNSYLVANIA.

It is not my intention to write a dissertation on nasal catarrh in its various phases, nor to consider the different methods of treatment recommended for the cure of this malady, but simply to give an account of my experience in operating with Jarvis' wire snare écraseur upon a number of cases, and to point out a few of the minor, but, to my mind, essential details of manipulation which insure success in the operation.

Case I.—S. R——, aged twenty-six, clerk, presented himself at my office, complaining of cough, shortness of breath, frontal headache, watering of the eyes when in the open air, continual clearing of the throat, and copious expectoration of thick, glairy mucus. He spoke with a thick, nasal voice, stating that his nose had been stopped up for two years, and that he was obliged to moisten his throat several times during each night. He had a good family history, and an examination of the chest revealed no signs of lung disease. The laryngoscopic mirror showed congestion of the laryngeal mucous membrane, as well as of the pharynx, which was granular. On introducing the nasal speculum into the anterior nares, I found the left nostril clear, but the right one was partially obstructed by an anterior hypertrophy, springing from the lower turbinated bone. A rhinoscopic view was easily obtained, on account of the sluggishness of the soft palate, amounting almost to a paresis. In the mirror I saw two large growths, of a purplish color, entirely filling up the posterior orifices of the nostrils and thus giving rise to the stenosis. The mucous membrane of the posterior nares was in a state of chronic inflammation, and covered with thick whitish mucus. The adenoid tissue of the vault of the pharynx—the so-called pharyngeal tonsil—was also somewhat enlarged.

I at once introduced Jarvis' écraseur through the left nostril, and, by directing the motions of the loop of the instrument, as seen in the rhinoscopic mirror (Fig. 1), held in the left hand, succeeded at the first trial in engaging the growth and slipping the wire over its pedicle. I then gradually tightened the screw at short intervals, always stopping when the patient winced. In the course of three-quarters of an hour, I found that I had come to the end of the screw-thread of the instrument, and yet the growth had not been cut through by the wire. This was caused by my having made the loop too large before snaring the growth, and I was obliged to untwist the ends of the wire and shorten it before it was possible to proceed with the operation.

Having thus shortened the loop, I again gave a turn to the milled nut every few minutes, until, having consumed more than two hours, patience ceased to be a virtue, and at the risk of hemorrhage, I withdrew the instrument, dragging with it the growth, which was then about the size of a small cherry. On examining the instrument, I found that the growth had long been severed from its connection with the nasal mucous membrane, and the loop had been drawn into the canula of the instrument fully half an inch, dragging with it a shred of tissue. This explained the fact that I had not felt a diminution in the tension of the wire as soon as the growth had been cut loose.

There was no pain felt by the patient during the operation, except a peculiar feeling in the ear, and but a few drops of blood escaped. The nostril was cleared of obstructions, thus enabling the patient to breathe through it freely for the first time in two years. The relief he felt was clearly seen in the expression of his face, and he left the office, as he declared, "a different man."

On the following day he came again, stating that there had been no bleeding from the nose, that he had slept throughout the whole night without once awaking, and that he was almost entirely free from the oppression in the chest which had troubled him before the operation. On examination I could not find the wound at the site of the growth, but noticed a puckering of the mucous membrane at that place (Fig. 1). The patient insisted upon having the other nostril cleared of obstruction, which I proceeded to do, taking care, however, to measure the loop before introducing the instrument into the posterior nares. I succeeded in removing the growth, which was somewhat smaller than the first one, in a much shorter time, and also without any pain or hemorrhage.

After a rest of a few days I began to treat the chronic inflammation of the nasal mucus membrane by means of mild astringent sprays thrown into the nasal cavities through the nostrils, and removed an anterior hypertrophy with the galvano-cautery knife. In the course of a few weeks the patient was to all intents and purposes cured of his trouble.

Case II.—Miss M. T——, aged twenty-four years, school-teacher, applied to me for relief from an obstruction in the nose, which became worse at night when in the recumbent position. On questioning her I learned that she had been troubled with the usual symptoms of nasal catarrh for several years past, and that of late her throat had become painful, and her voice was frequently hoarse; she had a cough with thick, yellowish white expectoration; oppression in the chest; falling off in weight, and an almost continuous frontal headache. She attributed her trouble to the constant inhalation of chalk-dust from the black-board in the school-room. Her family history, in regard to lung disease, was not quite good, her grandfather on her mother's side having died of phthisis.

An examination of the chest showed slight prolongation of the expiratory sound, but no other signs of lung trouble. The larynx was seen to be in a state of chronic inflammation, with a slight abrasion on the outer arytenoid fold. The pharynx was dry, and studded with enlarged follicles. A rhinoscopic examination was very difficult to make, on account of an inability on the part of the patient to keep the velum relaxed. I obtained, however, a sufficiently extended view of the posterior nares to see some whitish growths, partly filling up the posterior orifices of the nares, and hanging from the middle turbinated bones by a short pedicle. The anterior nares were clear of obstructions in the shape of hypertrophied mucous membrane. Having prepared the snare, taking care to determine the size of the loop, I introduced the instrument into the nostril, and the rhinoscopic mirror into the fauces, but was unable to obtain a view of the wire loop in the post-nasal cavity. I therefore trusted to my knowledge of the position of the growth, and endeavored to engage it in the snare. After many fruitless efforts to catch it, I had to desist, on account of faintness

overcoming the patient, due probably to the irritation of the mucous membrane produced by the frequent introduction of the instrument.

The next day she returned, and, before again attempting to catch the growth with the snare, I introduced a Eustachian catheter into the nares, through which was passed a piece of *violin* string until its end appeared below the margin of the soft palate, where it was seized with a pair of forceps and drawn out through the mouth. The catheter was then withdrawn, the other end of the string projecting several inches from the nostril, and both ends were secured by passing them over the patient's ear, having previously drawn the velum away from the wall of the pharynx, without making undue traction. The presence of the catgut being well borne, I was enabled to obtain a good view of the posterior nares, and engage the hypertrophy at the first introduction of the snare. (Since then I have obtained, through the kindness of my friend Dr. W. C. Jarvis, his combined tongue-depressor and rhinoscopic mirror, and his tape-holders, shown in Fig. 1,* described by him in

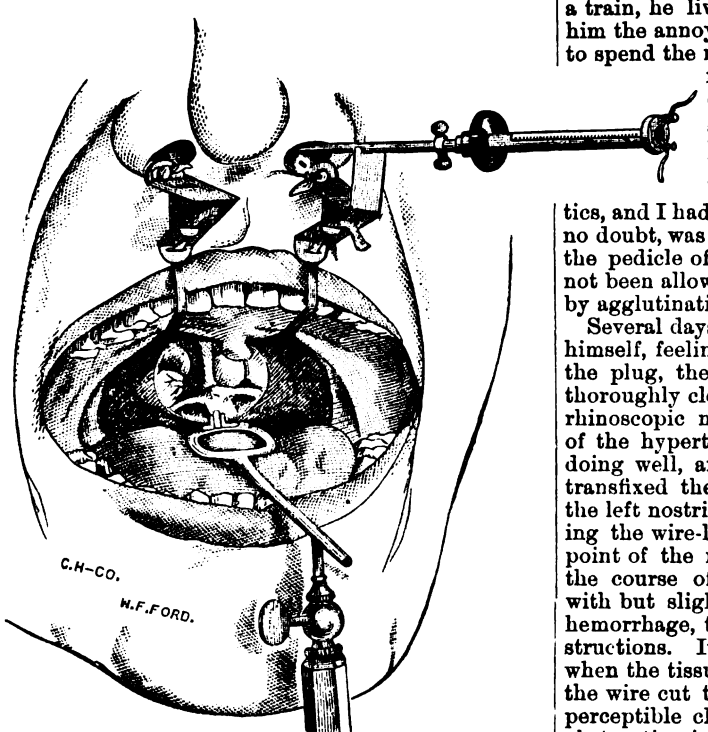


Fig 1.

a paper read before the American Laryngological Association, session 1880,† and I find that the procedure of securing the soft palate, and the practice of watching and directing the movements of the snare in the posterior nares, are greatly facilitated.)

Both hypertrophies were removed on successive days, each operation occupying about an hour. There was no pain or hemorrhage, and the patient, under appropriate after-treatment, rapidly regained her former good health.

Case III.—Mr. S. O——, aged thirty-two years, merchant, consulted me in regard to nasal trouble, consisting in stoppage of the nose, constant hawking and expectoration of thick, stringy mucus, loss of sense of smell, and all the other well-known symptoms of hypertrophic catarrh. Perhaps the most prominent symptom was the complete absence of nasal resonance in his voice. On examination, I found the anterior nares almost completely obstructed by anterior hypertrophies, springing from the lower turbinated bones and touching the septum. A rhinoscopic examination showed a large posterior hypertrophy projecting from the upper turbinated bone, on the right side, into the post-nasal cavity. I decided to remove the posterior hypertrophy first, but on introducing the snare I had some difficulty in engaging the growth, on account of the great irritability of the nasal mucous membrane, causing the patient to sneeze at the slightest touch. Finally, however, I succeeded, and began to tighten with the milled nut, when the patient informed me that he would have to leave my office within three-quarters of an hour, in order to make a train, he living out of town. Desirous of saving him the annoyance of missing the train and having to spend the night in town, I hurried the operation rather more rapidly than I would have otherwise done. In consequence, the growth was severed from its connection within thirty minutes, but a copious hemorrhage followed, which could not be stopped by the application of styptics, and I had to plug the nares. This hemorrhage, no doubt, was due to the fact that in cutting through the pedicle of the hypertrophy sufficient time had not been allowed for the vessels to become occluded by agglutination of their walls.

Several days afterward the patient again presented himself, feeling greatly relieved. He had removed the plug, the hemorrhage having stopped. After thoroughly cleansing the nasal cavities, I saw in the rhinoscopic mirror a small raw surface at the seat of the hypertrophy, which seemed, however, to be doing well, and I therefore left it alone. I next transfixed the base of the anterior hypertrophy in the left nostril with a curved needle, and after passing the wire-loop of the snare under the heel and point of the needle, I made rapid traction, and in the course of twenty minutes removed the mass, with but slight pain to the patient, and very little hemorrhage, thus freeing the nostril from all obstructions. It was noticeable that at the moment when the tissue had been compressed to its utmost, the wire cut through it quickly, producing quite a perceptible clink. The other side was freed from obstruction in the same way after the lapse of a few days, and in a very short time all the symptoms complained of had disappeared.

There are in my note-book the histories of a number of other cases of both anterior and posterior hypertrophy, which I successfully operated upon, but as they are more or less like the foregoing ones whose history has been given in detail, I shall not weary the reader with an account of them, but will at once state the conclusions which I have arrived at in treating these cases, both as regards the nature of the hypertrophies, as well as the operation for their removal.

All the cases examined by me invariably presented a constriction at their base, resembling a short pedicle, thus forming a groove into which the wire loop of the snare readily slips and is retained. The surface of this form of hypertrophy is more or less

* Photographed and engraved from a sketch kindly furnished by Dr. Wm. H. Arthur, U.S.A.

† Reprints of this excellent paper may be obtained by applying to Dr. W. C. Jarvis, 128, East Twenty-fifth street, New York City.

corrugated, resembling that of a hobnail liver, and their color is either a yellowish white or a purplish red, the former being tougher and of a more fibrous nature than the latter, which are more liable to bleed on slight provocation.

Thin sections of these hypertrophies (Fig. 2), when examined under the microscope, show the epithelial layer of the mucous membrane to be intact, and the mucous membrane proper normal; the sub-mucous tissue, however, is charged with a small-celled infiltration of inflammatory origin; the

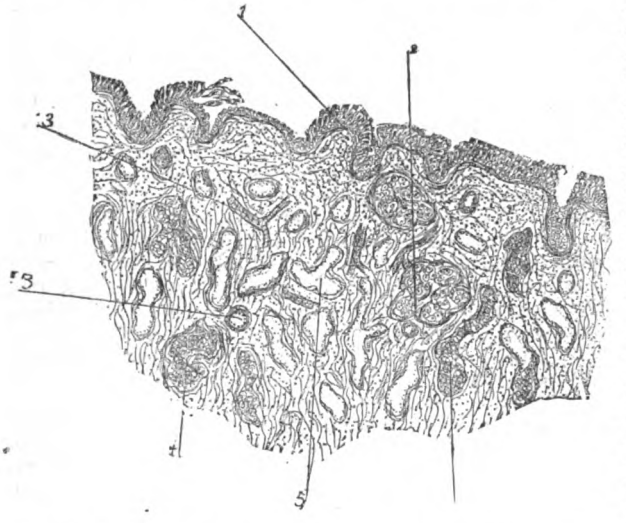


FIG. 2.—Section of Posterior Hypertrophy, × 250: 1, mucous membrane; 2, glands; 3, arterioles; 4, venous sinuses, filled with blood-corpuscles; 5, venous sinus empty, showing lining of endothelium.

mucous glands and follicles are hypertrophied and filled with proliferated epithelium. The substance of the tumor is made up of fibrous tissue, containing blood-vessels in the shape of small arteries and arterioles, and numerous large venous sinuses lined with endothelium, which shows a tendency to proliferate. This tissue is identical in appearance with that found in the corpora cavernosa of the penis and in angiomata or erectile tumors. Those hypertrophies which show a yellowish white color in the rhinoscopic mirror have their fibrous tissue more dense, and the venous sinuses are not as numerous as in those which appear dark-red or purplish. This fact explains the difference in density noticed whilst snaring them off.

The presence of these hypertrophies, whether in the anterior or posterior nares, decreases materially the volume of the nasal cavity, and thus interferes with the free communication between the air contained in this cavity and the outer air, hence the nasal resonance of the voice is changed. This change is noticeable, not only in the singing voice, and *all* its registers, but also in the speaking voice, as I have pointed out in a paper read before the American Laryngological Association, session 1881.

The success of Jarvis' operation, *i.e.*, the successful removal of the hypertrophies without undue pain and hemorrhage and without loss of time, depends mainly upon the observance of details on the part of the operator—details which suggested themselves to me in the first cases I operated upon, and especially in those whose history I have already briefly related.

The snare which I use is one that has been materially improved by Dr. Jarvis since he described it in his first paper,* by adding a scale on the screw thread, to measure the size of the wire loop; by substituting a cross-bar for the milled button intended for a finger-rest, and by adding a device for fastening the ends of the wire more easily and quickly than with the old instrument.† The measuring of the wire loop is of great importance, in order to prevent the mishap which occurred to me in Case I., and my method of procedure is as follows:

After the ends of the wire have been made fast, a piece of hard wood, shaped like a wedge, is thrust into the loop. The triangular base of the wedge is rounded off and its narrowest part rests upon the end of the main tube, whilst the wire is drawn tightly over it by pulling upon the slide tube. The circumference of the wedge is first measured by making a wire loop of the same size and drawing it just within the orifice of the main tube, at the same time noting the distance traversed by the slide tube. This distance is added to that previously registered by the slide tube when it clasped the wooden wedge, and the number found will be that indicating complete section of the hypertrophied tissue.

The loop might be measured by drawing it into the instrument, but then the wire becomes "kinked" and is very apt to break at that point during the operation, while when measured in the manner described the loop retains its shape. Before introducing the instrument into the anterior nares, when posterior hypertrophies are to be removed, the loop should be made as small as possible without distorting it, by pulling down the sliding tube. As soon as the end of the instrument has entered the post-nasal cavity, the loop is again enlarged by pushing up the tubes to which the ends of the wire are fastened. This has the effect of throwing the loop out and bending it toward the growth to be removed, thus greatly facilitating the catching of the hypertrophied tissue. The cross-bar on the instrument indicates the position of the tube in relation to the natural bend of the loop. Under no circumstances should an attempt be made to engage the hypertrophy without directing and watching the motions of the loop in the rhinoscopic mirror. It is true that there is no projection in the nares which could engage the snare that is not pathological and therefore should not be removed, as Dr. Bosworth has pointed out;‡ yet I do not think we are justified in subjecting our patients to the pain and inconvenience, not to mention the loss of time occasioned by our efforts in groping for the growth in the dark, when by using Jarvis' combined tongue-depressor and rhinoscope in connection with the tape-holders for retracting the soft palate, a sure means is provided for seeing what we are doing.

The variance of Dr. Bosworth's experience from mine in the use of the tongue-depressor and rhinoscope was evidently due to the incompleteness of the instrument at the time of his writing.

As soon as the wire has slipped into the constriction at the base of the hypertrophy, the loop should be carefully tightened around this tissue by pulling down the slide tube. When the traction upon the wire becomes perceptible the milled nut is run

* Loc. cit.
† MEDICAL RECORD, April 30, 1881.
‡ Jarvis' Operation: Its Relation to Nasal Catarrh: MEDICAL RECORD, July 9, 1881.

down, further traction being made by rotating it. By giving a turn to the milled head until the patient winces, every minute at first, and later every three or four minutes, the growth can be snared off in the course of an hour or so. As soon as the point marked on the scale has been passed by the end of the sliding tube, a number of turns should be given to the milled nut to insure complete section of that portion of the mucous membrane overlying the end of the tube, and then the instrument can be withdrawn. The growth usually comes out clinging to the écraseur by a shred of tissue which has been drawn into it by the wire, but sometimes, although severed from its connection, it remains in the nasal cavity and should then be removed at once with a pair of forceps. After the operation the patient should be cautioned against blowing his nose, for fear of opening the agglutinated venous sinuses by the mechanical vibration, and so starting a hemorrhage. If any bleeding should follow the operation, it can usually be stopped by throwing the spray of a solution of perchloride of iron into the nostril.

In removing anterior hypertrophies by means of the snare, a much finer wire should be used than is employed in operating upon the posterior forms of hypertrophy, and as the blood-supply to that portion of the mucous membrane of the nose is much more limited, they can be cut off quickly. These sessile growths can readily be engaged in the loop by first transfixing their base with a slightly curved needle until its point projects above the growth into the nasal cavity.* The loop is then introduced in such a manner that the portion of the needle projecting from the nostril is above the end of the instrument, while the end of the wire loop is under the needle's point, very much after the manner of a hare-lip suture. The wire is thus prevented from slipping off and the hypertrophy is readily secured and is removed sticking to the needle.

I may here state that in making use of the expressions "anterior" and "posterior hypertrophy" in this article, I have taken it for granted that the reader is acquainted with the divisions and their modifications, as first pointed out and described by my friend Dr. Jarvis, and now generally accepted by the laryngological profession in this country.

The great and immediate relief following Jarvis' operation in hypertrophic catarrh and the minimum amount of pain and hemorrhage attending the removal of nasal hypertrophies, places in the hands of the physician a means of quickly and safely curing one of the most annoying and widespread maladies which human flesh is heir to, and I take this opportunity to express my personal gratitude to Dr. Jarvis, and my admiration of his ingenuity in presenting to the medical profession so admirable an instrument as his snare.

1346 Spruce Street, Philadelphia, Pa.

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**The Six Healthiest Cities** in the United States, as measured by the most recent authentic reports, were in the order named: Utica, Dayton, New Haven, Portland, San Francisco, and Lawrence. The six unhealthiest were Charleston, Memphis, Cleveland, Chicago, Hudson County, N. J., and Lynn. The six unhealthiest in the world were St. Petersburg, Charleston, Malaga, Alexandria, Warsaw, and Buda-Pesth.

* The Radical Cure of Nasal Catarrh, by William C. Jarvis, M.D.: Transactions of American Medical Association for 1881.

## ON STRICTURE IN THE UPPER PORTION OF THE RECTUM AND IN THE SIGMOID FLEXURE.

By CHARLES B. KELSEY, M.D.,

Surgeon to St. Paul's Infirmary for Diseases of the Rectum, New York.

A stricture of the upper portion of the rectum, or of the sigmoid flexure, differs in so many essential particulars of pathology, diagnosis, and treatment from the same conditions as usually found in the lower three or four inches of the bowel, as to require to be studied from a special standpoint. The confidence in diagnosis and the facility in treatment, which come from the sense of actual contact with the finger in the one case are entirely lost in the other, and the most skilful diagnostician may at any time find himself afloat in a sea of uncertainty as to the actual condition and the proper method to be pursued in its treatment.

The disease we are now considering is one of middle or advanced life, and a stricture of this part of the bowel, which is due to disease in the intestinal wall itself, and not to pressure from without (the latter class of cases we shall leave out of consideration), is, in the vast majority of cases, of cancerous origin. The same statement has often been made concerning strictures of the lower portion of the rectum, but without the same foundation in fact, as any one with much experience in such cases will soon have impressed upon him. It is a very unsafe rule to consider the majority of strictures of the lower end of the rectum as necessarily malignant; but the many varieties of non-malignant disease to which this part of the rectum and the anus are subject, and which result in ulceration, contraction, and finally in stricture, are not to be found higher up. Practically there are only two causes of stricture in the upper part of the rectum, cancer and dysentery, though typhoid ulceration and traumatism may in rare cases result in cicatricial contraction. Dysentery may, as a rule, be easily eliminated by a careful attention to the previous history, and therefore the practice of dealing with all of these cases as though in the presence of malignant disease, will seldom lead to error.

The varieties of cancerous growth are the same here as elsewhere in the canal, and chiefly varieties of epithelioma, though scirrhus, encephaloid, and colloid have been met with, and cases of melanoma and true osteoma are on record. The disease tends to encircle the bowel rather than to extend longitudinally, and may produce fatal obstruction, while still limited to a small area, and before causing any secondary deposits, either visceral or lymphatic.

The bowel above the stricture will generally show secondary changes in cases of sufficiently long standing, due to the mechanical effects of the obstruction; and these secondary changes may extend for a long distance, and are particularly to be found in the caput coli. There will generally be found dilatation and corresponding thinning of the wall, though sometimes both dilatation and hypertrophy will be seen. The wall may be as thin as paper, and softened in addition, and at these softened places perforation takes place. The mucous membrane is injected, and in some places eroded. In a case reported by Goodhart,* these changes had gone on to actual gangrene, extending in spots along the trans-

* Med. Times and Gazette, February 28, 1880.

verse and descending colon, and ending abruptly at the stricture, and were undoubtedly due to the intensity of the inflammatory action caused by the retained irritant matters. The bowel is generally distended with gas and fæces, but the latter are more often fluid than solid, though fecal tumors, with their well known characteristics, will sometimes be met.

The symptoms of stricture of the upper part of the rectum are not the same as when the disease is lower down, for the nerve-supply is not the same, nor is the sphincter muscle involved. For this reason the patient is much more apt to suppose himself suffering from chronic constipation and dyspepsia than from hemorrhoids. Pain in the abdomen, not always localized at the left side, pain in the loins and down the legs, obstinate constipation and occasional diarrhœa, are the things usually complained of, and in these there is nothing upon which to base a positive prognosis. The fæces may never present the peculiar ribbon-shape which was so long taught to be characteristic of stricture, for the reason that the passages are often fluid in character, and when solid are accumulated in masses in the rectal pouch below the obstruction, and passed in the natural shape. They are very apt to be lumpy and unformed rather than misformed, but they may be streaked with blood, which is always a valuable sign, and should lead to a careful physical exploration.

The chief symptom of a stricture of the intestine in this or any other part is obstruction. But this may come on gradually, and with the usual signs of intestinal disturbance, or suddenly, in a person to all appearance in perfect health. But whether the obstruction come on suddenly or gradually, the diagnosis is not generally made until it comes. Then we have an almost typical picture of pain over the afflicted part, tympanitis to a marked degree, sometimes a fecal tumor, obstinate vomiting, sometimes of fæces, constant desire to stool, with no relief, and the passage only of watery fluid mixed with blood or mucus, and the serpent-like coils of writhing intestine. With these symptoms there will be a marked change in the general appearance of the patient; the urine will be altered in quantity and quality; there may or may not be febrile reaction, and the patient will die either of exhaustion or in sudden collapse from perforation of the already weakened and over-distended bowel, unless relieved by treatment.

In cases where the condition is more complicated and where secondary deposits—in the liver, for example—have begun to do their fatal work before actual obstruction has begun, these symptoms may all be obscured by the presence of others which shall more readily attract the eye. In a case which I now have under treatment, I had made the diagnosis of cancer of the liver with ascites and great intestinal disturbance some time before my attention was called to the rectum, and it became evident by examination that the affection of the liver was secondary to malignant disease high up in the rectum, which was also gradually involving the pelvic viscera.

A stricture in the location under consideration may be diagnosticated in two ways—by the symptoms to which it gives rise and which we have already enumerated, and by physical examination, but the examination must be conducted with great care and gentleness, and may even then be negative in its results. The attempt to decide upon a stricture in this situation by the use of bougies is altogether unsatisfactory and by no means free from danger. It is unsatisfactory because an obstruction will generally be encountered in trying to pass an instrument of any considerable size through this part of the bowel, and the passage of an instrument of small size, which is much easier, proves nothing. It is dangerous because, with the ordinary rubber rectal bougies, a diseased bowel may easily be ruptured with what may seem to the operator to be no more force than is justified in attempting to overcome the natural obstructions to this part of the passage. The bulbous-pointed bougie on the flexible stem appears *à priori* to be the most suitable for the exploration, but it has two objectionable features. It is not at all an easy instrument to pass, and if passed through an obstruction too much force is required for its withdrawal after the abrupt shoulder is in contact with the stricture. After considerable experiment, I have had a bougie made for myself by Stohlman, Pfarre & Co., of New York, which I like much better. It is very similar to those known as Wale's dilators, but much more flexible than anything in the market, and therefore much safer.

Fortunately, we are not limited to the passage of the bougie for the diagnosis, for if the cancerous mass is of any size, it may be felt through the wall of the abdomen by careful palpation; and if not, and the symptoms warrant it, the sphincter may be stretched or incised sufficiently to allow of introducing the hand into the rectal pouch. Passing the whole hand into the rectal pouch, and then the finger into the sigmoid flexure as far as possible, is a very different affair from trying to pass the whole hand into the flexure, and is free from danger, because the distention by the hand is not carried to the point where danger is located at the reflexion of the peritoneum. Though seemingly a much more serious matter, it is really safer than any forcible use of the bougies, and by it the diagnosis may be rendered certain for all that part of the bowel at present under consideration.

It will at once be seen that the treatment of a stricture here must be conducted on entirely different principles from that of a stricture within reach of the finger. In the latter case we may deal with the disease itself by dilatation, excision, or rectotomy. In the former, one of these measures (rectotomy) is entirely inapplicable, dilatation is of no value and very dangerous, and excision has not as yet been sufficiently tested to be fairly judged. So that, instead of dealing with the disease itself, we are limited to attempts to ward off its natural effects—in other words, to preventing the occurrence of intestinal obstruction, and forming an artificial outlet for the contents of the bowel when obstruction is threatened.

In stricture here, as elsewhere, much may be done by medicinal means in preventing threatened obstruction. The food should be such as leaves the least possible residue, and such residue as there is should be rendered soft and partially fluid by the administration of suitable drugs. In the way of laxatives, a mineral water, or one of the various salts, taken before breakfast, will generally be found sufficient. Purgatives for very obvious reasons are contraindicated. The diarrhœa, which is due to the morbid condition of the bowel above the stricture, may be controlled to some extent by the use of bismuth and morphia, and the general health may be kept up by tonics, among which the compound tincture of cinchona is, perhaps, as good as any.

When obstruction actually exists, much may be done in the way of general treatment before resorting to operation. Food should be almost absolutely suspended; opium should be given in large doses, to allay the peristaltic action of the intestine, and large poultices covering the abdomen will be found to give great relief to the suffering. Dr. Norman Kerr has derived great benefit from the administration of the extract of belladonna in doses of one or two grains at short intervals, in this condition, but the *rationale* of its operation is not understood. No purgatives should be administered, and the bowel should not be tapped with the aspirator, for the reason that it is generally filled with fæces, which for the most part still retain their fluidity, and that in the overdistended condition of the intestinal wall there is no closure of the aspirator-wound by nature, and leakage after withdrawal of the needle is more than likely to occur. When used, a little gas and fluid fæces will alone be removed, and very little relief will be obtained.

The surgical means at our disposal for the relief of this affection are chiefly two: one consists in removal of the cancerous growth through the abdominal wall, and at the same time forming an artificial anus in the left inguinal region at the site of the incision. The other, in opening the bowel above the disease, but making no attempt to deal with the disease itself. The former of these operations is an outgrowth of the great advance in abdominal surgery which has taken place in the past few years. It has been performed four times, and twice with success. The successful cases are those by Gussenbauer,* performed in 1879, and by Czerny, of Heidelberg.† In the former there was no return of the disease nearly two years after the operation, and in the latter there was an interval of six months before the return, which may be considered a satisfactory result. The fatal cases are, one previously performed by Gussenbauer, in which the man died in fifteen hours, of "acute sepsis," and a recent one by Billroth,‡ in a man aged twenty-eight, which proved fatal in thirty-six hours, from incipient profuse peritonitis. The operation consists essentially in opening the abdomen by the incision customary in ligature of the left iliac artery, excising the cancerous mass, stitching the end of the upper segment of the colon to the wound, so as to form an artificial anus, and allowing the lower portion to drop into the pelvis. It is applicable to cases where the disease has not extended beyond the wall of the bowel into adjacent parts, and all that can be said of it at present is that it promises well, and the future may prove it to be one of the great advances in surgery for which the present century promises to be famous.

We shall make no further mention of the various attempts to extirpate extensive disease of this part of the bowel through the perineum, than to say that we believe them all to be unjustifiable.

The only other means of relief is in colotomy, either inguinal or lumbar. The left inguinal operation is, perhaps, preferable, though in the present state of opinion and statistics the surgeon is at liberty to choose between the inguinal and lumbar incision according to his own ideas of facility of operation and subsequent convenience of location, for there is little to choose between the relative dangers of each.

It will often be difficult for the surgeon to decide for or against operative interference in these cases. Two factors enter into the question: 1st, whether or not the patient is likely to survive the operation itself; and, 2d, if this is decided in the affirmative, whether sufficient is to be gained to pay for the risk. The general condition of the patient, the extent of disease as regards secondary deposits, and the amount of pain due to defecation, all have to be taken into consideration. The operation may be indicated to relieve this pain when there is not much chance of actually prolonging life, and it may be indicated to prevent or overcome obstruction where there is no great amount of pain. I am inclined, for myself, to limit the operation to those cases where the pain of defecation is great, and where the disease is still circumscribed, and should not for the choice between death from obstruction and death a few weeks later from exhaustion always have recourse to this extreme measure, but should rather trust to securing a comparatively easy passing away of the patient under the influence of opium. Indeed, many patients will decide the question in this way for themselves when the question in all its bearings is explained to them.

It is a curious fact, that by relieving the over-distention of the bowels by colotomy, the obstruction also will sometimes cease, and passages will again pursue their natural course. Such a case is reported by Goodhart,* where three successive operations for opening the colon above the stricture were resorted to to relieve obstruction, and after each one the passages were again restored to the natural outlet.

48 East Thirtieth Street, New York.

* Ztschr. f. Heilk., Prag., 1880.
† Berl. klin. Woch., No. 45, 1880.
‡ Verengerungen des Verdaungotraktes durch Carcinom. [K. k. Gesellsch. d. Aertze in Wien.] Wien. med. Woch., March 5, 1881.

## EPILEPSY FOLLOWED BY APOPLEXY.

By CHARLES ANDERSON, M.D.,
ACTING ASSISTANT SURGEON U. S. ARMY.

Although the occurrence of fits of epilepsy and apoplexy in a patient within a short time of each other is not unheard of, yet without doubt it is rare enough to put on record as a case of some interest.

On the evening of December 18, 1879, I was called to see a man who had just had a "fit." The messenger described the man as having fallen suddenly, and, to use his own words, "foamed at the mouth and rastled about in the snow for as much as ten minutes." Thinking there could be no doubt but that it was an ordinary epileptic fit, the messenger was given twenty grains of bromide of potash to give the patient. Following the messenger to their camp in fifteen minutes, I found, upon entering the tent, that the patient was sitting on the bed, in a half-dazed condition, as epileptics are apt to be just after an attack. His pulse was sixty-four per minute, soft and full; the pupils were dilated. He complained of nothing, but, on questioning, said he had a sense of fulness in the top and front of the head.

While talking to him his face flushed, and he complained of feeling dizzy, and shortly afterward said he felt a numbness over the whole right side. This remark did not strike me at the time. The idea that it was *petit mal* being uppermost, he was given another dose of bromide of potash. In about an hour word came that the man was a great deal worse. On visiting him immediately I found him unconscious; pulse, twenty a minute, very weak and

* Brit. Med. Jour., September 27, 1879.

irregular; respiration about twelve, and of that peculiar puffing which is so characteristic of apoplexy. The pupils were contracted and immobile. I gave him a hypodermic injection of one cubic centigramme of fluid extract of ergot with one-fourth of a grain of morphia sulphas, and left directions that, *if* he recovered enough to swallow, he was to be given a drachm of the fluid extract of ergot every two hours.

On account of the man's condition and surroundings, I never expected to see him alive again. It was no little surprise the next morning to hear that he was not only not dead, but very much better. At ten o'clock A.M. he was conscious, pulse 80 and regular, paralysis of the right side marked, but not profound. No pain, but a tingling sensation over the whole right side. He was removed to an A-tent and given fluid extract of ergot in drachm doses three times daily for a week. The improvement was marked and continuous, and recovery was complete. He was able to sit up on Christmas day, and left camp on January 8, 1880.

Previous to this attack he said he had about fifty epileptic fits, but never had anything like apoplexy. He had never had syphilis or rheumatism, and had never been a drunkard.

This case is another illustration of how some men will recover from serious troubles under the most unfavorable conditions. To be sick in a tent during a ten days' winter storm, with the wind from twenty to thirty miles an hour, and the mercury — 20° F., surely speaks of vitality and recuperative powers little short of miraculous in the man who recovers.

CAMP ON SNAKE RIVER, WYOMING.

## A CASE OF POPLITEAL ANEURISM,

SUCCESSFULLY TREATED BY MEANS OF ESMARCH'S BANDAGE AND DIGITAL COMPRESSION.

BY E. Z. DERR, M.D.,

U. S. NAVY.

THE patient, a strong, robust man, was admitted to the U. S. Naval Hospital, Norfolk, Va., on April 15, 1881. Examination revealed the existence of a large, pulsating tumor in the left popliteal space. The calf of the leg was very much larger than its fellow, and both sensation and motion were very much diminished. Owing to this condition of things, no active surgical interference was resorted to until June 10th, when Esmarch's bandage was applied, and allowed to remain on forty-five minutes. At the end of that time the pain became so intense that it was removed. Pulsation returned after the removal of the bandage, but its force was perceptibly diminished.

On June 16th another application of the bandage was made, and allowed to remain one hour and twenty-five minutes. Pulsation returned on the removal of the bandage, but its force was still further diminished.

On July 9th the bandage was again applied, and allowed to remain one hour. At the same time digital compression was made over the femoral, and continued for six hours after the removal of the bandage. Pulsation returned after the cessation of the pressure, but was greatly diminished, and the tumor was found to be much smaller and firmer.

July 10th.—Digital compression was continued for two hours, causing still further diminution in the size of the tumor.

July 11th.—Compression was continued for three hours to-day, with further good results.

July 12th.—The compression was kept up for five consecutive hours to-day, and on the removal of pressure no pulsation could be detected.

At the present writing—September 9th—a hard, fibrous mass, not larger than a walnut, occupies the site of the large, pulsating tumor which previously existed.

I report the case because it furnishes another illustration of the utility of the combined method in the treatment of popliteal aneurism.

# Reports of Hospitals.

## BUFFALO GENERAL HOSPITAL, BUFFALO, N. Y.

SERVICE OF CHARLES C. F. GAY, M.D.

GUN-SHOT WOUND OF THE CRANIUM; A NO. 32 BULLET LODGED IN THE BRAIN FOR SIXTEEN DAYS—ITS REMOVAL—RECOVERY.

(Reported by C. C. Fredericks, M.D., House Surgeon.)

ANTONIO MUNCIATIO, aged forty-two years, was shot by George Nerone, on May 1, 1881, and on the same day was brought to the hospital. The ball penetrated the skull at the left parietal eminence. The wound had been explored, and a probe passed to the depth of three inches in a downward and forward direction without reaching the ball. There was some hemorrhage.

Patient was conscious; pulse and respiration normal; there was no pain, and the pupils were of equal size.

As no serious symptoms of brain lesion were present, it was thought advisable to wait for them to develop before resorting to an operation. During the first ten days, no bad symptoms showed themselves. On May 12th, cerebral symptoms became manifest; patient began to get dull; there was loss of appetite and some delirium at times. On the 16th, he became quite delirious; serum and pus have been escaping from the wound for the past three or four days; there are no symptoms of paralysis; pulse, which has been normal, now became slow.

| | Pulse. | Temperature. |
|---|---|---|
| May 14..... | 36 | 99° F. |
| May 15..... | 64 | 99¼° F. |
| May 16..... | 60 | 97¼° F. |
| May 17..... | 60 | 98¼° F. |

May 17th, the patient was etherized, and Dr. Gay cut down upon the skull, laying back a V-shaped flap. A circular opening through the skull was found, which had as clean-cut edges, and formed as perfect a circle, five-eighths of an inch in diameter, as though made with the trephine. A dozen pieces of comminuted bone were removed, some of which were lodged in the brain, one piece at a depth of three-fourths of an inch.

These pieces of bone removed, careful search was made for the bullet, which was found imbedded one inch beyond the surface of the brain. It was brought out to the orifice by means of a blunt strabismus hook. The ball was flattened and too large to pass through the orifice, until the orifice had been enlarged by means of the rongeur. There was no hemorrhage; the wound was dressed, and stimu-

lants and tonics freely administered during the following three or four days. The pulse, after the operation, rose to seventy-two per minute.

| | Pulse. | Temperature. |
|---|---|---|
| May 18..... | 70 | 97¼° F. |
| May 19..... | 70 | 99¼° F. |
| May 20..... | 104 | 100⅝° F. |
| May 21..... | 100 | 98° F. |
| May 22..... | 90 | 98° F. |

The right pupil is observed to be a little more dilated than the left, the latter is normal.

Tonics and stimulants were discontinued and fl. ext. apocynum cannab., gtt. xv. ter. die, ordered.

May 24th.—All medicine discontinued. Patient much improved, there is no delirium; pupils normal. Slight paralysis is noticed in right hand, which may have existed for days unobserved, it is only now apparent by patient's inability to forcibly flex the fingers.

May 25th.—The patient seems entirely to have recovered, and is only awaiting closure of the wound. Pulse, 90; temperature, 98. He is allowed to be up and dressed.

June 18th.—Left hospital and has engaged in his usual occupation, and has continued well up to the date of writing this report, August 23, 1881.

## ST. MARY'S HOSPITAL, LONDON.

UNDER THE CARE OF DR. HANDFIELD JONES, F.R.S.

### ANEURISM OF THE ABDOMINAL AORTA.

W. M——, aged forty-seven, married, shopkeeper, is one of a large family, many of whom died in infancy. The patient says he had an attack of "bilious fever" when in America, seventeen years ago, and after that "typhus fever." While recovering from the latter he was attacked by ague, and has had several attacks subsequently until he returned to England, eleven months ago. He had a slight attack of ague last winter. He also contracted gonorrhœa last winter, and says he had a sore on the penis at the same time, but has never had any other symptoms of syphilis. With these exceptions, he has always enjoyed good health.

The present illness commenced on August 20, 1881, with a slight attack of ague, for which he attended at St. Mary's Hospital as an out-patient on August 25th. At the same time he felt "rheumatic" pains about the left hip. He first noticed a lump on that region the day he came to the hospital. On examination a pulsating tumor was found in the left lumbar region the size of a large orange. It occupied the space between the lower ribs and the iliac crest, and extended from the axillary line in front to about an inch and a half from the posterior median line. It was not painful or tender, and on percussion was completely dull. The pulsation was not expansile, but took place *en masse*. On pressing deeply on the abdominal wall in front on the left side a hard substance was felt with a well-defined inferior border. It was covered by intestine, and extended from the lower border of the thorax to about two fingers' breadths above the level of the iliac spines. It was not tender. The heart-sounds were normal.

The patient was admitted on August 29th. His aspect was then natural, and he expressed himself as feeling well in himself, and as not suffering any inconvenience from the tumor. He slept well, and took his food well. Pulse weak. The urine was slightly smoky, specific gravity 1,035, and no albumen, but contained iodine. As his bowels were confined, a purgative pill and an enema were administered. He was put upon "broth diet" with milk and beef-tea, but the quantity of liquids given was restricted to one pint in twenty-four hours. Iodide of potassium was given internally (fifteen grains three times a day).

During the next few days the tumor remained about the same. Ice was constantly applied to it.

August 8th.—Complains of pain in left inguinal region and has flatulence. No change in the tumor. Ice discontinued and an antacid mixture given for flatulence. Urine presents the same characters. The next day he complained of "rheumatic" pains in left hip, for which a belladonna liniment was ordered.

August 12th.—Has had a very restless night, with flying pains in spine. Severe, darting pain in lumbar region of spine came on about 8 A.M., and lasted an hour and a half. There is some swelling in left groin, with numbness and much pain. Pulse, 100; temperature, 99.6° F. His tongue is furred, and appetite bad. Tumor larger and firmer.

August 13th.—More feverish. Temperature rose to 100° F. in evening. Morphia is given to relieve the pain.

August 15th.—Has had no sleep, owing to constant pain over stomach and bowels. To-day M. de Watteville passed two needles into the tumor, and a galvanic current was also passed. The needles did not move freely in the tumor, but seemed firmly held. There was no apparent change in the tumor after the operation.

August 18th.—Tumor again galvanized, without any apparent result.

August 22d.—Feels pretty well to-day. Occasional slight pains in back, which come and go. Temperature varies from 97° to 99.6°, the latter being highest recorded within the last few days.

September 1st.—Passed a good night, but complained of sickness in morning.

September 2d.—No pain. Perspires freely after taking morphia. Two grains of zinc sulphate to be given every night.

September 3d.—Patient complained, about eleven o'clock, that pain in tumor had returned. On examination it seemed firmer, more tense at middle than at sides, and seemed moving round toward back.

September 5th.—Not in pain. Eight grains of zinc chloride injected into tumor.

September 7th.—Patient suddenly called out, at 6.30 A.M., that tumor had grown as large as his head all at once. On being examined, it appeared much increased in size, and more so posteriorly and inferiorly. It is becoming purple, especially at its summit. Patient has great pain between scapula, extending down spine to the tumor. He cannot bear to be touched over site of pain. Morphia injected.

September 8th.—Tumor seems increasing in size; is markedly discolored in two places. Pulsations very violent, and plainly visible. Evening temperature, 100° F.

September 9th.—Patient is in continual pain. Calls for morphia directly he wakes up. Tumor about the same. Temperature normal.

September 14th.—The patient died early this morning.

*Post-mortem* (September 15th).—The tumor was found to be a large aneurism of the abdominal aorta, which almost entirely filled the left side of the ab-

dominal cavity, displacing the left kidney downward. The cavity of the aneurism was almost entirely filled up by coagulated blood, very firm, and in concentric layers, only a small central channel being left.

*Remarks.*—When the patient was first admitted, Dr. Handfield Jones expressed the opinion that the tumor was an aneurism. As the case progressed, however, suspicions were entertained that it might prove malignant—in which opinion Mr. Norton, who also saw the case, coincided. The case illustrates the difficulties attending the elucidation of the nature of abdominal tumors.

## Progress of Medical Science.

REDUPLICATION OF HEART-SOUNDS.—The following case of asynchronous contraction of the cardiac ventricles has been reported by Dr. Frederick P. Henry, in the *Archives of Medicine*, July, 1881: The patient, a multipara, aged thirty-four, had had eight attacks of articular rheumatism, the last one three years ago, at which time her heart-trouble began. There was no œdema; respiration, in the recumbent position was tranquil; urine free from albumen. There was a distinct mitral regurgitant murmur, and also what appeared to be a very irregular action of the cardiac muscle. The pulse was forty-eight per minute, and over the heart's apex could be counted ninety-six distinct pulsations, succeeding each other at regular intervals, and each apparently composed of a complete cardiac revolution. The cardiac sounds were four in number, the first accompanied by a murmur loudest at the apex; and their rhythm was irregular, the first two and last two succeeding each other more rapidly than did the second and third; that is to say, there was a distinct pause between the separate action of the ventricles, but decidedly shorter than the regular pause occurring at the close of the complete revolution. The intensity of these sounds also varied in degree; the first and third, however, namely, those due respectively to the closure of the mitral valve and the contraction of the left ventricle, and to the closure of the tricuspid valve and the contraction of the right ventricle, being nearly equal in intensity. The patient improved somewhat under treatment, but subsequently she suffered a relapse with very urgent symptoms, and, at her own request, was discharged from the hospital.

There are three principal means by which reduplication of cardiac sounds may be produced. The first, most common, and best understood, is the asynchronous closure of the aortic and pulmonary valves, and is not a very rare phenomenon. It occurs both physiologically, as has been shown by Potain, and in disease when, from any cause, the normal ratio of aortic and pulmonary tension is destroyed. This asynchronous closure of the semilunar valve gives rise to the *bruit de rappel* of Bouillaud, and, inasmuch as it is composed of a long sound followed by two short ones, it has been called a dactylic sound, and may be represented by the usual symbol for the dactyl, — ⏑ ⏑. The second principal course of the reduplication of cardiac sounds is due to an abnormal action of the left ventricle, giving rise to the *bruit de galop*, also first recognized and named by Bouillaud, but afterward more minutely studied and described by Potain. From its resemblance to the foot of Greek and Latin metre, known as the anapest, it has been spoken of as an anapestic sound, and may be represented with considerable accuracy by the usual symbol for the anapest, ⏑ ⏑ —. The extra heart-sound which gives rise to the *bruit de galop* is presytolic, and it has been demonstrated as a movement by Potain by means of his cardiograph; and the same observer has shown that the movement is the distention of the ventricle, accomplished and completed by the contraction of the auricle. Potain shows in confirmation of this view that the presytolic movement coincides with the jugular venous pulse constantly encountered in these cases. Potain considers this abnormal sound to be so high in the scale of diagnostic importance, that occasionally it may call attention to the existence of an interstitial nephritis that might otherwise continue unsuspected. Dr. Henry, on the other hand, regards it as of about as much diagnostic value as the retinitis nephritica, of which oculists were wont to talk so much in the first flush of their discovery, and of which so little is said to-day.

Dr. Henry suggests that the sound produced by the asynchronous contraction of the ventricles be spoken of as a double iambic sound, and that it be represented by the symbol of the double iambus, ⏑ — ⏑ —, and, in so doing, he refers to the sound independently of any murmur that may be associated with them. In the only two cases with which he is acquainted, Leyden's and his own, there was valvular disease, of rheumatic origin, giving rise to one or more murmurs. There is one form of valvular disease which, he thinks, entirely prevents the *bruit de galop*, namely, mitral obstruction. The first sound of the *bruit de galop* is due to a diastolic pulsation of the ventricle, caused by an abnormally energetic contraction of the auricle in the presystolic period, and in order that the auricular contraction may have full effect, the mitral orifice must be unobstructed. This is not said unadvisedly, for in a case of mitral obstruction that was under his care about two years ago, the left auricle had become so hypertrophied that its pulsation could be distinctly felt, and aneurism was at first suspected. This was readily excluded, and mitral obstruction immediately diagnosticated. Notwithstanding this abnormally powerful action of the left auricle, there was never detected the slightest diastolic pulsation of the left ventricle.

PULMONARY GYMNASTICS; OR, FORCED RESPIRATION IN THE TREATMENT OF SO-CALLED WEAK LUNGS, ATELECTASIS, PHTHISIS, ETC.—Dr. T. C. Smith describes (*Medical and Surgical Reporter*, June 25, 1881) the so-called "weak chest" as a condition observed among those confined closely at their labors many hours in the day, and who take little or no active exercise. These patients complain of general weakness, dyspnœa after moderate exercise, a feeling amounting to soreness, or dull pain within the lungs, perhaps dull intercostal pains. Attending these symptoms there is often general lassitude and melancholic expression. Physical exploration may not, and very often does not, develop any evidence of disease of the lung-tissue. If in these cases there is any hereditary tendency to phthisis, the gravity of the symptoms is increased, and, unless overcome, will be likely to lead to serious results. Dr. Smith's attention was called to this condition by the case of a young student who was of healthy physique, good habits, and of healthy parents. He complained of dyspnœa on slight exercise, pain in the chest, of

intercostal pain, had dry, troublesome cough, general lassitude, and disposition to melancholia. He improved under tonics and good diet and out-door exercise, but the pulmonary symptoms were the same. He was then directed to make deep and prolonged inspirations and forced expirations many times every day, after the following method: having placed a small tube between his teeth—a common quill or toothpick answers very well—he was ordered to breathe exclusively through this, both by inspiration and expiration. About every third respiration he was directed to quietly withdraw the tube, when the lungs were thoroughly filled, and to hold his breath as long as he could without distress. This simple process was to be repeated six to eight times every twenty-four hours, and he was to take a dozen deep inspirations in this manner at each time of repetition. He at once experienced relief, and rapidly improved in general health. Physical examination at no time showed any real disease of lung-tissue in this case. This young man continued to practise this during his years of student-life, and acquired the ability to effect a difference of five inches in the measurements of his chest, as between forced expiration and inspiration; and could, after taking a few deep inspirations, hold his breath for a full minute without distress.

It is not claimed that this will cure phthisis in its early stage, but it may be made a valuable means of relief in connection with other remedies. It will often be found that, in many cases where a condition of atelectasis is present from bronchial catarrh, or following lobular pneumonia, forced inspiration will be the means of opening up the closed bronchial tubes and air-cells sufficiently to cause a removal of the trouble. By this means the decomposing debris of detached and locked-up epithelium can be removed, and the diseased lung-tissue treated to the pure air needed to restore it, through reparation, to a condition of health. Where the thickened mucous membrane of the diseased bronchia causes atelectasis of any portion of the lung, forced inspiration will often open this up, and the collapse of lung-tissue will disappear, or enclosed foul air will be exchanged for that which is pure and wholesome.

It may be remembered that Dr. P. Niemeyer several years ago recommended a very similar course of pulmonary gymnastics for precisely similar conditions of so-called "weak chest."

Ovaritis.—Prof. Vedeler, in a paper read before the Christiania Medical Society, says that as the inflamed ovary is irritable and larger than normal, and, as a rule, dislocated and fixed, it is easier to feel than the normal one. The ease with which the normal ovary may be felt, is, according to the author, quite variable; it may be most readily done in lean multipara, where it is found as a flat, readily movable, insensible body, about the size of an almond, perhaps an inch to the side of the fundus uteri. The size of the inflamed ovary is, in the ordinary forms, about that of a common apple; in chronic cases, that of a walnut, chestnut, or (most frequently) an almond-shell; the surface is generally smooth, the consistence elastic. In the larger ovaries the author was able to feel distinctly small elevations, supposed to be inflamed and hypertrophied follicles. The dislocation is due to the increased weight of the organ, but the degree may depend on accidental anatomical conditions, for a somewhat large ovary may be situated relatively high up, while a much smaller one may rest on the bottom of the fossa Douglasi. As the inner end of the ovary is fastened to the uterus by the ligamentum ovarii, while the other is quite movable, the inflamed and longer ovary will fall downward and inward, and the ligamentum ovarii will contract on account of the inflammatory conditions. The ovary is, therefore, nearer the uterus than usual. The cause of the greater or less immovability is probably new-formed perimetritic adhesions. There is usually considerable tenderness, and generally, during an examination, a certain sensitiveness in one or another portion of the vaginal arch attracts our attention. If the index finger is now introduced as far as possible, the surface of a little tumor is suddenly felt. Combined examination by the rectum makes the case plain. An ovaritis is often overlooked in the presence of a complicated uterine disease, the latter being more apt to attract the attention. The author does not believe that a heavy and inflamed ovary causes retroversion, since he found but fifteen retroversio-flexions in fifty cases of ovaritis. Ovaritis has no subjective symptom which is pathognomonic; manual examination is, therefore, absolutely necessary. Most frequently there are pains in the iliac region, shooting down over the thigh. Ovaritis causes a tendency to dysmenorrhœa, though the latter is by no means stubborn. Menorrhagia and metrorrhagia are not rare. Amenorrhœa was not met with as a symptom of ovaritis. Nausea and vomiting were only occasional complications of the chronic forms; in acute cases they were due to the fever. Hysteria was found in five cases out of fifty, but in none of these could a hysterical access be excited by manipulation of the diseased organ. Interstitial neuralgia was not rare. In all the fifty cases, with the exception of one (where there was marked hysterical vomiting), the general condition was satisfactory. Over thirty per cent. were sterile.

*Etiology.*—Over-exertion is not regarded as a probable cause, though it may be an occasional one. Gonorrhœa is undoubtedly the most frequent cause, acting by direct continuation from the vagina through the uterus and tube to the ovary. Gonorrhœa was found to be the cause in thirty-eight per cent. of the cases. The recognition of this cause is often difficult, as the symptoms of gonorrhœa disappear from the external sexual parts when the ovaritis appears, in exactly the same manner as epididymitis; and there is not always an opportunity to examine the husband. Suppression of the menses, excessive coitus, rheumatic and exanthematic fever were not met with as causes, though it is not doubted that exanthematic and septic fever may produce an endometritis with a further continuation. In eighteen of the fifty cases no cause could be found.

*Termination.*—Cirrhosis was not met with in the living, though it could be demonstrated post-mortem. Termination in ovarial abscess was met with once. Peritonitis followed. On section the ovary was found to contain a number of communicating cavities filled with pus, one of which opened into the peritoneal cavity. Restitutio ad integrum is not frequent; the course is usually chronic, with exacerbations and remissions, and as the pain is rarely great, and the influence on the general condition little or nothing, the patient gradually passes out of notice.

*Treatment for acute ovaritis.*—Neptune's belt, leeches to the vagina, saline cathartics, quinine, opium till every trace of tenderness has disappeared and the ovary can no longer be felt. Vedeler was unable to decide as to the merits of gold salts, which

Noeggerath regards as specific. Chronic ovaritis is difficult to cure, and relapses readily occur. Among internal remedies, most benefit was obtained from bromide of potash and ergotin combined, and given in pills. Externally, turpentine to the abdomen, after which a Neptune's belt was left on all night, and a woollen bandage was worn over the abdomen through the day. Leeches were used at the commencement of the treatment, and later on when there was great tenderness or pain. Generally two were applied to the vaginal arch on the diseased side. Every other day the vaginal arch was pencilled with superiodide of potash. A suppository of equal parts of opium and extract of belladonna was placed in the vagina every evening.—*Norsk Mag. f. Loegevidenskaben* and *Nordiskt Med. Arkiv*, vol. xii., No. 27.

Aphthongia.—This was the name given by Fleury, in 1865, to a variety of aphasia characterized by spasm of the muscles supplied by the hyperglossal nerve whenever the patient attempts to speak. In Mossdorf's case (*Chl. f. Nervenheilk.*, No. 1, 1880, and *Arch. de Neurologie*, No. 2, 1880), when the patient, a boy aged seventeen, attempted to speak, the hyoid and abdominal muscles became cramped, respiration ceased, and through the half-opened mouth the tongue was seen contracted, its tip firmly pressed against the lower incisors, and its dorsum against the palate. In a few moments the abdominal muscles relaxed, and respiration was resumed, but the spasm of the tongue and hyoid muscles persisted. The movements of the tongue, lips, and face were, with this exception, quite normal. Latterly the boy was unable to reply to his parents, or even read aloud when alone. The difficulty of speech showed itself when he was six years old, and was attributed to fright. A cure was effected by galvanization: the negative pole was placed in the nape of the neck, and the positive pole slowly moved up and down the spine.—*Brain*, July, 1881.

A Case of Leprosy of the Larynx.—Dr. George Mackern (*Lancet*, July 23, 1881) has reported a case of true leprosy of the larynx, which came under his observation during his recent travels in upper Egypt. He was accosted by a beggar by the roadside, who demanded "backsheesh" with such a peculiarly hissing sound of voice, that the doctor stopped to examine him more closely. He was a Syrian, aged forty-two years, and had been ailing for six years, but had developed leprosy during the last four years only. The leprous tubercles appeared early in his illness; first in his face and hands, subsequently in both groins, and more recently along the dorsum of his tongue. The tubercles developed slowly and showed but little tendency to ulceration. He never suffered from itching, but complained of loss of sensation in the parts affected. During the last few months he had rapidly lost his voice, phonation being accompanied by a peculiar hissing sound. Previous to this his tongue had become affected, and his nose also became clogged up, interfering with his breathing. He was old and haggard in appearance; on both sides of his nose and cheek there were a number of smooth, rounded and hard tubercles of yellowish brown color; a few were also present at the anterior nares; one or two only were ulcerated, the rest being either quite smooth and shining, or covered with a branny desquamation. Tubercles of a like description were present in both groins and on his hands, on the palmar and dorsal surfaces, but the feet appeared free, although the inner and upper part of the thighs showed tubercles and ulcerations. His tongue presented a remarkable appearance. Along its dorsal aspect it was ridged and furrowed by the disease, tubercles as large as peas and of a distinctly yellow color forming its ridges, and the furrows being formed by ulcerating surfaces.

The fauces were free from tubercles, but the epiglottis was a typical example of the disease as manifested in the larynx. It was enlarged and much thickened; its edges were quite rounded and curled in toward each other; the whole was of a pale grayish color, and along the upper convex margin on the left side were seen three tubercles projecting from the surface, and of a yellow color, one especially being of a bright orange color. No ulceration was observed anywhere in the epiglottis. On testing with the laryngeal probe, the whole surface of the epiglottis was found to be perfectly anæsthetic, no reflex action or cough being produced. In consistence the epiglottis was firm to the touch, giving the idea of an infiltration with some dense material. It was impossible to see well into the larynx, owing to the size and shape of the epiglottis.

The above description agrees closely with that given by Virchow, and with the first two cases recorded by Mackenzie. But in this case distinct tubercles in the epiglottis and complete anæsthesia of that part was observed, a point not hitherto described.

Traumatism in Syphilitics.—Folinea (*Archives Générales de Médicine*, July, 1881) regards syphilis as a means of transforming wounds of traumatic origin into specific manifestations, especially during the inflammatory period. The transmission may take place during the active period of syphilis, whether there be syphilitic manifestations near or at a distance from the wound. The initial lesion has no influence on wounds at a distance from it. During the active period of syphilis, when the disease does not transform traumatism into syphilitic manifestations, it causes them to assume an indolent type, incurable except by anti-syphilitic treatment. During the latent intervals of the secondary period, syphilis acts as if it were in activity, whether in causing the traumatism to take on a syphilitic type or in retarding recovery, unless specific treatment be used. Latent syphilis, during the neoplastic period, has but seldom a specific action on traumatisms. Wounds are almost always unaffected by the coexistence of syphilis. Traumatic lesions in syphilitic subjects can be the source of syphilitic infection, and in patients suffering from latent or active recent syphilis can become the point of departure for new syphilitic manifestations. A traumatic lesion in a non-syphilitic subject, who subsequently becomes infected, may become the point of departure for all the manifestations of syphilis.

American *v.* Arabian Horses.—We do not believe the Arabian horse to be superior to the American or English thoroughbred in either speed or endurance, and have no doubt that the best American or English horse can concede the best Arabian two stone, and defeat them over any distance of ground. The Arabian horse cannot be used for forty-eight consecutive hours without water. The Arabs stint their horses of water; they conceive and justify this course by their belief that much liquid injures the horse's shape and impairs his wind.—*Mobile Item.*

# THE MEDICAL RECORD:

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GEORGE F. SHRADY, A.M., M.D., Editor.

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## REGULATING THE PRACTICE OF MEDICINE.

Such as are interested in laws for regulating the practice of medicine in different States will receive with becoming discouragement the announcement that "the law of 1880" of this State is practically a failure. The Board of Censors of the Medical Society of the County of New York have made their first annual report concerning the working of the law and the results of prosecution for its infringement, and base their unwelcome verdict regarding its utility upon the stubborn facts of a sufficiently extensive experience before the grand jury and in the police courts.

It appears to be conceded by the gentlemen of the committee, as well as by the distinguished counsel for the society, Mr. E. C. Ripley, of this city, that the law is deficient in many important particulars. For instance, it has been proven that any person can register without a diploma and yet escape conviction of the charge of perjury. The District Attorney has expressed the opinion that such false swearing is not perjury, in the strict sense of the term, and cannot be punished as such according to the provisions of the law of 1880. Such an opinion, if sustained, breaks the backbone of the law, and makes the latter virtually a dead letter. In view of this being possible, it would appear to be unwise, in any future amendment of the law, to allow any latitude whatever to an individual registering, and to hold him to the strictest accountability for the slightest misconception of his privileges. How this can best be done must be a subject for careful study. In the attempt to frame such a law the danger will be in dodging between the charge of class legislation on one hand, and an undue leniency toward quackery on the other. It is well known that while the framers of the law of 1880 were honest in their intentions, they had to submit, by way of compromise, to the tinkering of legislators more or less directly connected with patent medicine schemes and other systems of quackery. The result is now obvious. Not only is the present law ineffective, but its enactment has rendered null the provisions of former laws on the same subject. The latter fact must be taken into consideration when the time arrives for amendments to be made.

The suggestions from the committee regarding the practicability of State examination comes with a renewed force after the experiences of the past year, and must command attention accordingly. There are many conditions to be taken into account before the desirable end can be reached, but we are convinced that such is the only way out of the present difficulties in applying a law to supply the real needs of the public, and meet the requirements of lawful medical practice.

### THE ADIRONDACK CURE FOR PHTHISIS.

Under the stimulus of an ill-advised magazine article, the Adirondack region was widely invaded by phthisical patients last summer. We now hear from all sides complaints that very little good was effected there; that many persons died in the woods; and that many others received absolutely no benefit. The impression is abroad that the "wilderness cure" is a failure.

The Adirondack region was first prominently advocated as a health resort by Dr. A. L. Loomis, in a very temperate and able article that was published in this journal. The author disclaimed a belief in any specific "climate cure," and asserted for the Adirondacks only that it had pure air, and a dry, well-drained soil as its most conspicuously beneficial qualities. No special stress was laid upon the evenness of the temperature or the dryness of the air. He presented twenty cases, as illustrating the effects of the locality upon phthisis. Of these twenty, ten recovered, six were improved, two not benefited, and two died. The cases cured were of the catarrhal form of phthisis, the disease in most of the cases not having reached the stage of excavation.

Of the six patients who were benefited, four had catarrhal and two fibrous phthisis. The two cases not benefited were of the tubercular form, while the fatal cases were far advanced in catarrhal phthisis. Dr. Loomis's observations tended to show that it was in certain forms of catarrhal phthisis that benefit or cure was to be expected. Fibrous phthisis would, he thought, do better in Colorado. Tubercular phthisis and some of the catarrhal forms could not be expected to improve anywhere.

Now this presentation of the wilderness cure is very different from that of the enthusiastic, but very unwise gentleman, who, having cured himself in the Adirondacks, "wrote up" the wilderness in most glowing colors.*

* The Wilderness Cure. By Marc Cook. New York: Wm. Wood & Co. 1881.

It is no wonder that many bitter disappointments followed to those who caught the hopeful spirit of the book's work. Perhaps even medical men were a little affected by it. Otherwise, it does not seem possible to explain the many phthisical invalids, entirely unfit for camp life anywhere, who swarmed into the St. Regis region, there to die. Instead of the wild and peaceful beauty of the forest, they found rain, cold, poor food, and discomforts of all kinds. And instead of quiet and rest, they heard the hacking coughs and met the wan forms and haggard faces of others struggling like themselves for a further lease of life. Some patients died almost as soon as they arrived, and there was the depression of the funeral instead of the exhilaration of healthful life which the primeval forest was expected to suggest. So far as food and the various comforts of life are concerned, as well as regards the pleasantness of the weather, invalids last summer were, we learn, much disappointed. This was due in part, perhaps, to its being an exceptionally disagreeable season.

On the whole, the lessons of the history of this resort are chiefly those of prudence for the future. The wilderness cure has not yet proved a failure, but it is proved that the class of cases who may be benefited there must be carefully selected ones. We may in time learn that the Adirondacks are no better than almost any other mountain resorts; but definite opinions must be based on statistics not yet obtainable.

It may be well to remember, however, that cold and high altitudes for phthisis are just now in fashion. There is a degree of reaction from the older practice of sending every one to warm climates, like Madeira, Egypt, Florida, etc. On the other hand, Davos and the Upper Engadine are among the most popular resorts in Europe for the phthisical, while Colorado, which is warmer but equally elevated, is proportionately popular in this country. Several years ago, Dr. James Henry Bennett expressed his disbelief in these places, and advocated a temperate climate as the most efficacious and most rational form of "climate cure." It remains to be seen whether his opinions will not ultimately prevail.

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### PRIZES OFFERED BY THE FRENCH ACADEMY.

We published not long ago a list of some of the large prizes which were offered for competition by foreign societies or universities. It is instructive to be reminded once in a while how much better they do things elsewhere than in America. And we are tempted to refer to this particular matter of our inferiority in the matter of offering prizes, by seeing the recently published list, proposed for the year 1882 by the French Academy of Medicine, This list includes fourteen different sums, to be awarded for investigations in various departments of medical science. The largest amount offered is $5,000, the smallest is $250; there are two prizes of $1,000, one of $600, while the rest are about equally divided between prizes of $250, $300, and $400. The total amount thus offered is over $10,000.

The largest prize, that of $5,000, is one offered by M. and Madame Saint Paul, for the discovery of a specific against diphtheria. It is open to any person of any nation. It is wisely arranged that, pending the discovery of this specific, the interest on the money shall be used to encourage researches upon the subject in question, and is to be bestowed biennially upon such person as has made a noteworthy contribution to the knowledge of diphtheria. It is an interesting fact that two of the other prizes are given by women.

In about half the cases, the name of the subject upon which the competing thesis must be written is given. Thus the Academy prize is upon general arterial atheroma and its influence upon the nutrition of organs; that of the Baron Portal is upon the lymphatic system in its pathological relations. Locomotor ataxia, and the hygiene of infancy have also been selected as subjects for competitive study.

In the three large Eastern medical centres of this country, New York, Philadelphia, and Boston, there are about half a dozen prizes offered altogether. The total sum does not, we believe, exceed, if it even reaches, one thousand dollars annually. But a fact which is even more unpleasant than this one, is that we Americans do not get all the prizes that are offered us. Twice has the Boylston prize been carried off by Englishmen. It is not at all rare for some of the prizes offered in this city to be allowed to go unbestowed, because there has not been a sufficiently good essay put in competition. If we need therefore more prizes, we also need persons who can take them when they are offered.

All of which brings us round to the threadbare topic of the comparative barrenness of American researches in the field of medical science. Upon this we forbear to comment. It is a defect which will be corrected in time. Meanwhile we have to consider whether this time cannot be hastened by the offering of more prizes or the endowment of chairs for scientific and medical work.

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### A GOVERNMENTAL VETERINARY BUREAU.

The project of establishing a national veterinary bureau, which was discussed in The Record some years ago, has recently been revived. The continued existence of pleuro-pneumonia, and foot-and-mouth disease in American cattle, the large mortality from hog-cholera (infectious pneumo-enteritis), the embargo put upon American pork because of possible trichinæ, and upon American cattle because of pleuro-pneumonia, all these things have had a tendency to show the need of some central supervision over the sanitary condition of our domestic animals.

In addition to this the frequency of epidemics of

splenic fever among cattle and of dangerous influenzas among horses show that we need more than local studies in order to understand and prevent these diseases. The possibility of contagious pleuropneumonia being carried into Western herds still exists, and thereby greatly endangers the cattle interests.

Appreciating the need of some investigation concerning these various contagious diseases, the Treasury Department has appointed a commission to examine into them. This commission has been at work during the past summer, and is still engaged in accumulating facts upon the matters which it has been authorized to investigate. Its members are capable men, and no doubt will render much useful service.

But this commission is only a temporary affair, engaged in investigating certain specific questions. It does not at all serve the purpose of a national health bureau.

It is asked, therefore, among sanitarians, veterinarians, and stock-breeders whether such a bureau shall not be established. At a meeting of the Farmers' Club of this city, not long ago, a resolution approving such a board was passed.

Despite all the arguments there and elsewhere advanced, however, we are inclined to adhere to the view expressed when this matter first came up, that the creation of any separate national health bureau would not be judicious.

It would be, however, a prudent policy to establish some kind of central office at Washington, either in connection with the National Health Board or with the Agricultural Department; preferably the latter. Through the medium of regularly appointed inspectors or correspondents such an office could obtain authoritative facts regarding the prevalence of contagious diseases. These, published in official bulletins, would have a weight which no private or press reports could receive. By such means the damage to our commerce and agriculture caused by foreign embargoes on American cattle or meat could be prevented.

Investigations into the nature of diseases and contagions would also necessarily be made. Thus both pathological science and our financial interests would be promoted.

A central veterinary bureau of some kind is an object of such palpable utility that its establishment can hardly be anything but a matter of time. But there is no need of anything so pretentious and cumbersome as an independent national board.

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### THE ANNUAL REPORT ON HYGIENE.

The presentation of the annual report of the Committee on Hygiene, of the Medical Society of the County of New York, will serve as a reminder to the profession of the great interest taken in sanitary reforms by this organization, and of the persistency with which work in the desired direction has been prosecuted. While not desiring to make invidious comparisons, it is but justice to say that the principal part of the labor of the committee has been performed by its indefatigable chairman, who through evil as well as good report has lost no opportunity of advocating the necessities for reform in street-cleaning, the proper disposal of garbage, and the effectual abatement of nuisances. In all this he has been ably assisted by other members of the committee, and has received the sanction and endorsement of a powerful medical organization.

It is gratifying to learn that the work thus conscientiously performed, has not been in vain, and that reasonable progress has been made toward bringing about the needed reforms. Our streets, although susceptible of much improvement, are in a more cleanly condition than has been the case for many years past. This result is in no small degree due to the Committee of Hygiene of the County Medical Society, and is an evidence of the influence which medical opinion is exerting upon the sanitary needs of a great city.

It is not necessary to follow the chairman of the committee through the details of work done by the Health Board, or give the statistics of the past year, as collated from the official bulletins, as such data have been from time to time duly presented to our readers, but there are some suggestions connected with such data as deserve consideration in this connection. For instance, the proper disposal of manure and the abatement of the stable nuisance in the city are questions which should interest every sanitarian, and which call for some direct and practical solution.

The suggestions of the committee regarding the substitution of sawdust or shavings for straw, and the packing of manure in barrels or other movable receptacles, are in the right direction.

As can be readily believed, fermentation and the attendant escape of malodorous gases can by such means be prevented. At the same time the transportation of valuable material for the farmer can be greatly facilitated. The groundwork of the argument against the present storing and ultimate disposal of manure is the fact that such processes are positively unhealthy; the ordinary stableman and cow-boy to the contrary notwithstanding. Evidently sanitary science has made some advances since the time when hostlers were considered its authoritative exponents.

It will be a matter of some surprise to many to learn that there are at present no meat-inspectors in this city, and that the reason of this is the lack of funds in the hands of the Health Commissioners. No argument is needed to enforce the necessity of appointing such inspectors at once, and of raising the requisite funds for the purpose.

Again, the recommendation to appoint engineers to see that the new plumbing bill be enforced is one of scarcely less importance. Although the results of such inspections are not, prospectively considered, very promising, the moral law enjoins upon all good citizens and sanitarians to curtail the privileges of the ordinary plumber so far as is practicable or possible.

But we cannot undertake to review every point in the elaborate and comprehensive report of the distinguished chairman of the committee, Dr. John C. Peters, and must be content by noting substantial progress made in many important sanitary matters, and encouraging ourselves with the good prospects of the near future. The society of the county has efficiently upheld the hands of its committee, and there is every encouragement to continue in the good work.

## Reviews and Notices of Books.

MANUAL OF THE PHYSICAL DIAGNOSIS of DISEASES OF THE HEART, INCLUDING THE USE OF THE SPHYGMOGRAPH AND CARDIOGRAPH. By ARTHUR E. SANSOM, M.D., London F.R.C.P., etc. Third Edition, 12mo, pp. 300. Philadelphia: Presley Blakiston. 1881.

DR. SANSOM'S practical little volume has for some years been considered, and justly so, the best work of its kind in the English language. This third edition of his book has been considerably enlarged by the addition of new chapters describing the methods of employment of that much neglected little instrument, the sphygmograph. The author claims that this instrument has already attained such mechanical perfection and diminution of original bulk, that in its present shape it should be found as frequently in the physician's pocket as the thermometer and hypodermic syringe. We fear the millennium for sphygmographs has not yet come, though its advent may linger in the near future. If the author carries out his intention of supplementing the present book by a volume on treatment of cardiac affections, and if the second part will prove as satisfactory as the first, we shall possess a systematic treatise on heart disease as concise as it is reliable, and as practical as it is complete.

A MANUAL OF HISTOLOGY. Edited and prepared by THOMAS E. SATTERTHWAITE, M.D., of New York, in association with Drs. Thomas Dwight, J. Collins Warren, William F. Whitney, Clarence J. Blake, and C. H. Williams, of Boston; Dr. J. Henry Simes, of Philadelphia; Dr. B. F. Westbrook, of Brooklyn; and Drs. Edmund C. Wendt, Abraham Mayer, R. W. Amidon, A. R. Robinson, W. R. Birdsall, Dr. Bryson Delavan, C. L. Dana, and W. H. Porter, of New York City. With one hundred and ninety-eight illustrations. 8vo, pp. 478. New York: W. Wood & Co. 1881.

A WORK which completely fulfils the objects that prompted its preparation, provided such objects be legitimate ones, merits the praise that belongs to all successful achievements. The volume before us very certainly deserves the general commendation implied in the above remarks; but, in addition, its special significance justly entitles it to something more than this, for the editor and those associated with him have assuredly earned the thanks of the entire American profession by the preparation of their volume. It has been generally supposed that histological research, and laborious studies incident thereto, could flourish only on European soil. Satterthwaite's "Histology," however, embodies the practical demonstration of the erroneousness of this view. Manifestly, no modern work on this fundamental and highly important branch of medicine can be quite original; but the volume before us at least attests the fact that American physicians are as well qualified for independent histological research as the scientists abroad.

Certainly, we still lack many of the European facilities for original work of this kind, and, above all, there is a lack of that general and intelligent appreciation of its practical value—an appreciation which supplies so vigorous a stimulant to the prosecution of microscopical studies in Europe. It is because we are so fully conscious of these very disadvantages that the excellence of the present work so agreeably surprised and pleased us. To be sure, we miss the uniform excellency of works prepared by a single writer, when that writer happens to be a master-mind; but, instead, there is a compensatory variety as regards style and manner of treating the different topics that make up the twenty-eight chapters of the book. This circumstance goes far to make it decidedly pleasant reading.

A prominent and valuable feature of Satterthwaite's "Histology" is the eminently practical nature of the information it contains. This is doubtless due to the fact that the editor and most of the contributors are themselves teachers of histology, and as such are fully alive to the needs of the student; but the manual before us will also be found serviceable to those who may wish to pursue histological studies independent of other tuition. The whole book has been wisely kept within moderate limits as regards its size. Thus, while it gives all the essential facts found in larger and more pretentious works, it is a far more convenient and handy volume for reference than any with which we have yet become acquainted; and although it is essentially a human histology, points of comparative interest have been, for the most part, duly noticed.

The first nine chapters are from the pen of the editor, Dr. Satterthwaite. He first disposes of the technical portion of histology, explaining what apparatus is necessary for work, and how it is to be used. Histological methods of examination are fully discussed, and yet not so fully as to confuse the beginner by an *embarras de richesse*. The blood, epithelium, and tissues forming the connective-substance group are then very thoroughly described in five separate chapters. Following these is a good description of the teeth, and quite a lengthy chapter on the general histology of the nervous system. In the contributions of the editor, which are marked throughout by practical good sense and precision of style, we find, among other points of general interest, some original observations on the structure and development of tissues belonging to the connective-substance group.

Muscular fibre forms the subject of the tenth chapter, which is by Dr. Dwight. Here also we find the presentation of the results of some original observations on the intimate structure of a highly interesting kind of tissue.

Dr. Wendt is the author of the next chapter, which discusses the blood-vessels. He expresses his belief in the physiological occurrence of endothelial desquamation; and he is inclined to regard certain corpuscular elements of the blood hitherto known and described as microcytes, hæmatoblasts, etc., as evidence of the normal occurrence of such desquamation.

In the chapter on the lymphatic system, Dr. Birdsall has prepared a very satisfactory *résumé* of our present knowledge concerning a very important subject, standing as it does in intimate relationship with physiology and pathology.

The chapters on the liver and kidney, by Dr. Mayer, might have been improved by less attention to technical details, and a more complete discussion of current views. The author has, however, made a very careful and elaborate study of the minute anatomy of these organs, and, among other things, he makes a very positive assertion in regard to the bile-capillaries, he being convinced that these minute channels are provided with walls of their own.

The male and female genital organs are considered by Dr. Simes. His chapters contain a simple presentation of the histology of those parts, without any attempt to settle disputed points by evidence based on personal studies.

Of the chapter on the respiratory tract, by Dr. Westbrook, it may be said that it explains clearly the microscopical structure of the different organs subservient to the breathing function.

An elaborate chapter is that on the skin, by Dr. Robinson. Decided opinions, some of them at variance with current views, are boldly formulated by the author. As they indicate his perfect familiarity with the subject, they deserve to be carefully read by the student and practitioner. His chapter also contains original observations on certain peculiarities of cutaneous nerve-termini.

Dr. Amidon's chapter on the central nervous system lacks somewhat in clearness, fulness, and systematic arrangement. There is too much description of the appearance of consecutive microscopical sections, and too little grouping together of co-ordinate points. But perhaps the intricacies of cerebral and spinal histology hardly justify the presentation of this subject to the student otherwise than by the description of successive and characteristic sections.

The chapter on the eye, by Dr. Williams, that on the ear, by Drs. Whitney and Blake, those on the nasal fossæ, pharynx, and tonsils, the mouth and tongue, by Dr Delavan, as well as that on the alimentary canal, by Dr. Wendt, contain very satisfactory presentations of the histology of these respective parts.

A chapter, by Dr. Dana, on the spleen, the pancreas, the thymus, thyroid, and pineal glands, and the pituitary body, conveys in a lucid manner all the necessary histological information on these various glandular bodies. The thick cutis vera is described in a separate chapter. Dr. Warren therein sets forth his discovery of an integral portion of the skin (*i.e.*, the fat-columns), which, according to him, play an important role in certain hitherto imperfectly understood cutaneous changes.

The remaining chapters are on the urinary excretory passages and suprarenal capsules, by Dr. Wendt, and the mammary gland, by Drs. Porter and Wendt.

The last chapter, that on the mamma, is one of the best in the book, and we are pleased to find in it an adequate recognition of Creighton's remarkable views on the female breast. Some interesting points relating to the ultimate morphological changes concerned in the secretion of milk are developed, the authors holding that mammary epithelium is not necessarily destroyed in their physiological process.

The illustrations are for the most part the familiar ones found in the text-books of Frey and Stricker. But we also discover sixty-five original drawings, the majority of which are very well executed. The bibliographical indices have been wisely made to include only the more important references, especially those of recent date. In taking leave of this volume, we have no hesitation in recommending it as the best and most serviceable work of its kind in the English language. It will be a reliable and most useful guide to students, and a practical work of reference to practitioners. We have no doubt that, as soon as known, it will be speedily adopted by our colleges as the standard American text-book on histology.

THE COMPEND OF ANATOMY FOR USE IN THE DISSECTING-ROOM. By JOHN B. ROBERTS, A.M., M.D. Second edition, revised. 18mo, pp. 193. Philadelphia: C. C. Roberts & Co. 1881.

THIS useful and practical compend appears in a surprisingly short time in the dress of a second edition, previously revised. It is designed for use in the dissecting-room and in preparing for examination.

ON THE ANTAGONISM BETWEEN MEDICINES, AND BETWEEN REMEDIES AND DISEASES, BEING THE CARTWRIGHT LECTURES FOR THE YEAR 1880. By ROBERTS BARTHOLOW, M.A., M.D., LL.D. 8vo, pp. 122. New York: D. Appleton & Co. 1881.

WE doubt if the true value of these lectures by Dr. Bartholow has been appreciated by the profession as they should be. They form, next to Wood's work, the best contribution to physiological therapeutics which has appeared in the English language. It is not that so much original research is displayed, but the author has summarized the latest facts regarding the physiological action of drugs in a masterly manner, and has presented them in such a way that no one can read his book carefully without being profoundly impressed with the method of studying therapeutics therein advocated. It is as a plea for the scientific study of the actions of remedies that these lectures have their highest value. Empiricists may still scout at the results to therapeutics of physiological experiment. But they cannot deny the accomplishment of some good already, nor can they point any other path that can lead us out of the present uncertainties of medical practice. Dr. Bartholow shows some natural over-confidence in his methods and dogmatism in his statements. It is not to be forgotten that empirical and experimental study must go hand in hand. But we welcome, and urge attention to, a work which, like the one before us, shows so ably the things accomplished and possible in physiological therapeutics.

BOVINE TUBERCULOSIS IN MAN: AN ACCOUNT OF THE PATHOLOGY IN SUSPECTED CASES. By CHARLES CREIGHTON, M.D., Demonstrator of Anatomy in the University of Cambridge. With illustrations. 8vo, pp. 119. London: Macmillan & Co. 1881.

THE object of Dr. Creighton's essay is to show the pathological identity of certain cases of tuberculosis as they occur in man, and the bovine variety of this disease. In view of the fact that we are often

brought in close contact with the bovine species, the question of the transmissibility of "Perlsucht" becomes one of great practical importance. The author stands on purely morphological ground. If we grant that identity of form and structure prove an identity in the specific nature of an affection, then we must except his views that bovine tuberculosis may be, and actually is, communicated to man. Creighton adduces carefully prepared evidence to show that the disease in man is, morphologically at least, a perfect mimicry of the parent disease in the bovine animal. He rejects totally the doctrine of Klebs and his followers, who believe in the existence of specific micro-organisms as the cause of infection. But he leaves the vexed question as to the exact and ultimate manner of infection in much the same unsettled condition in which he found it.

The great value of scientific works of the kind offered in the pages of the author's book consists not in the final settlement of disputed or imperfectly understood points, but in stimulating further inquiries by presenting matters in a new light. The pathological research of our times is gradually drifting away from man as an isolated being, and concentrating its attention upon subjects of general biological significance. There is much of promise in this modern tendency to establish a science of comparative pathology, and all efforts in that direction should be encouraged by the profession. On the whole, Creighton's arguments and opinions are suggestive rather than conclusive, but in any case they are deserving of attentive study. The drawings and plates are excellent, and leave nothing to be desired.

THE SANITARY CARE AND TREATMENT OF CHILDREN AND THEIR DISEASES: Being a Series of Five Essays. By Drs. ELIZABETH GARRETT-ANDERSON, SAMUEL C. BUSEY, A. JACOBI, J. FORSYTH MEIGS, and J. LEWIS SMITH. Prepared by request of the Trustees of the Thomas Wilson Sanitarium of Baltimore, Md. Boston: Houghton, Mifflin & Company. The Riverside Press, Cambridge. 1881.

BY the will of the late Thomas Wilson, Esq., of Baltimore, there was left the sum of five hundred thousand dollars in the hands of trustees, for the purpose of providing a sanitarium for children, near that city. The trustees, in a letter issued in 1879, expressed "the desire to furnish themselves with the results of the experience and views of those whose attention and studies have been devoted to the sanitary care and treatment of children and their diseases," also "the best method of establishing a sanitarium for sick children." This volume contains such suggestion embodied in the essays: "How can Children in a City be kept Healthy?" by Elizabeth Garrett-Anderson, M.D., of London, England; "The Mortality of Young Children—Its Cause and Prevention," by Samuel C. Busey, M.D., Washington, D. C.; "On the Improvement of the Condition of Poor and Sick Children—General Principles, etc.," by A. Jacobi, New York; "Observations upon the Sanitary Care and Treatment of Children and their Diseases," by J. Forsyth Meigs, M.D., of Philadelphia; and "Causes of the Great Mortality of Young Children in Cities during the Summer Season, and the Hygienic Measures required for Prevention," by J. Lewis Smith, M.D., of New York. There is also a plan of a sanitarium designed by Dr. Smith and carried out by Mr. J. B. Robinson, architect, of this city. The different essays show the result of careful study and reflect much credit on the writers. A better knowledge of the methods of establishing sanitariums for children, and their management, is greatly needed. Such institutions are being provided in the vicinity of many of our large cities, but we fear that the usefulness of many of them is sadly crippled by faulty construction and imperfect methods of management. There is therefore a demand for a book of this character, which not only points out the danger to which infants of the lower classes are exposed during the hot weather in our cities, but gives directions by which, to a certain extent, the danger to their health may be successfully warded off. It is a book not only for sanitarians, but one that may be read with great profit by all who have to do with the care and bringing-up of young children. There is little to criticise and much to commend in these essays: any extended remarks on them would simply be an analysis which our space does not permit. We therefore can only cordially recommend the volume to the profession and the public. The very attractive manner in which the publishers have done their work deserves special mention.

# Reports of Societies.

## NEW YORK PATHOLOGICAL SOCIETY.

*Stated Meeting, September* 28, 1881.

DR. T. E. SATTERTHWAITE, PRESIDENT, IN THE CHAIR.

DR. WILLIAM H. PORTER presented, on behalf of a candidate, a

DOUBLE ANEURISM OF THE PULMONARY ARTERY.

DR. B. A. WATSON presented a specimen of

LACERATION OF THE LOWER LOBE OF THE RIGHT LUNG CAUSED BY VIOLENCE, WITHOUT FRACTURE OF RIBS, TERMINATING IN DEATH.

It was accompanied by the following history: Mrs. C——, a strong and healthy woman, aged thirty-three years, gave birth to a child one month before her death; five days after her confinement she was out of bed and attending to her household duties, which she continued to do uninterruptedly until about 6 P.M. September 7th, when she was kicked out of a chair by her husband, and then three or four times while lying on the floor. During the morning of September 8th she was seen to leave the bed for a few minutes, and lean on the furniture of the room for support. She again arose about noon and prepared dinner for her husband and children, but returned immediately to her couch, on which she was found dead at 4 P.M. of the same day.

*Post-mortem appearances.*—The autopsy was made about twenty-four hours after death, and disclosed the following conditions: Body well nourished; slight *rigor mortis;* blood oozing from mouth and nostrils; a triangular-shaped contuso-lacerated wound over the centre of the right scapula, two and one-half inches in length by three and one-half inches in breadth; the skin over this space was abraded and rolled on itself, and the tissues beneath contused and infiltrated with blood; there was also observed on one of the lower extremities a discoloration of a considerable portion of integu-

ment, which was evidently due to a bruise, but believed to be without pathological significance.

The examination of the head showed the scalp, cranial bones, investing membranes, and the brain substance, in a normal condition.

*Examination of the thorax.*—It was observed where the sternum was raised, that the lungs appeared to fill the whole thoracic cavity, and did not contract as usual on the admission of air. There were no pleuritic adhesions. The right lung having been carefully raised from the cavity, the lower lobe was found to be irregularly congested, and to present a contused appearance; its substance at various points was partly disorganized and much infiltrated with blood, and on its posterior surface was discovered a laceration measuring two and one-half inches in length. The right pleural cavity contained about two pints of fluid blood. The *ribs were not injured*, but on the interior of the right thoracic wall were discovered three or four ecchymotic spots, and on further dissection these were found to be continuous with the same number of ecchymoses, which involved the soft tissues in the intercostal space between the seventh and eighth ribs. There were observed on the surface of the left lung four or five dark-colored spots which, being laid open, were found to be much infiltrated with blood. The trachea and bronchi were found to contain some fluid blood, and there remained adhering to the mucous membrane a few coagula. The heart and its appendages were apparently healthy.

*Abdominal examination.*—Spleen and kidneys normal; liver slightly fatty, but not to such an extent as to be inconsistent with health, while the uterus was found in a state of subinvolution and with what appeared to be a portion of a placenta adhering to the inner wall of its fundus. All the other organs in this cavity were apparently healthy; but the blood here, as everywhere else in the body, was remarkably free from clots, and almost entirely fluid.

*Remarks.*—The general professional interest which attaches to this case, arises from the laceration of a healthy lung by violence without a fracture of the ribs, but there are also many important medico legal questions which are sure to arise in connection with any judicial investigation.

Dr. Watson also presented a specimen of

SUBINVOLUTION OF THE UTERUS: PORTION OF PLACENTA ADHERING TO THE INNER WALL OF ITS FUNDUS.

This specimen was removed about twenty-four hours after death from the body of a strong and healthy woman—multipara—whose death had been caused by violence about one month after confinement at full term. The uterus was in a state of subinvolution, and contained, still adhering to the inner wall of its fundus, what appeared to the unaided eye to be a portion of placenta. It was thought the specimen might possess some interest to the profession on account of its comparative rarity; but it possessed for him a still greater interest, arising from the retained placenta-portion, in connection with the almost complete absence of coagulability in the blood observed in every part of the body during the post-mortem examination. Was not this patient suffering at the time of her death from a mild form of septicæmia; and did not the diminished coagulability of the blood depend on this morbid condition?

The specimens were referred to the Committee on Microscopy.

Dr. Ripley asked if the presence of such an amount of placenta in the uterus at that period after confinement was abnormal.

Dr. H. J. Garrigues said that he should answer the question decidedly in the affirmative. There should be simply an uneven surface, showing where the placenta had been attached, and not a mass which had a well-defined thickness, as seen in the specimen. Evidently a portion of the placenta had been torn off, and remained attached to the fundus of the uterus.

Dr. Ripley said that he had on several occasions, at about the same period after confinement, seen such patches within the uterus, and no abnormal symptoms whatever had been developed. That was why he asked the question.

The President remarked that he had in several specimens found a simple roughness at the placental site between the second and the fourth weeks, but had not seen such a mass left behind as was present in Dr. Watson's specimen.

Dr. Ripley remarked that it was not uncommon for the placenta to remain after labor, and finally require the introduction of the hand to tear it off and remove it. In such cases, more or less of the placenta was usually left. Now, in certain cases of apparently normal labor, a certain amount of placenta might be left, and he was quite sure that several times he had seen as large a mass as that in Dr. Watson's specimen a number of weeks after labor. That it was abnormal he did not dispute, and that it was not uncommon he believed.

Dr. Garrigues remarked that probably portions of placenta might be left when the hand was introduced into the uterus for its removal, but he thought the woman under such circumstances was always in more or less danger from hemorrhage, septicæmia, etc. Such pieces might remain without giving rise to symptoms, but, as a rule, when it was found that they had remained, they should be removed at once.

The President asked if the remaining portion of the placenta was undergoing decomposition at the time of death.

Dr. Watson replied that decomposition evidently was taking place, though not rapid, and there was an offensive discharge during life.

Dr. J. Lewis Smith thought that blood-poisoning was more to be feared than hemorrhage, and that was the more prominent reason why all portions of the placenta should be promptly removed.

Dr. Ripley remarked that the placenta is frequently retained after abortion without giving rise to septicæmia.

Dr. Carpenter suggested that the specimen illustrated retention of a portion of the placenta after labor at full term.

Dr. H. J. Garrigues presented a specimen of

ABORTIVE OVUM,

with the following history: A patient, who had been married three years, and was the mother of one child, two years old, came to him on the 6th of last August, wishing to know whether or not she was pregnant. She said that menstruation had been regular up to last January, but that since that time she had not had her courses. Four months afterward (in April) she was examined by a competent man, who told her that she was pregment. After that she was treated for catarrh of the uterus, and she had herself noticed that her abdomen did not increase in size.

On examination, the first thing Dr. Garrigues no-

ticed was a dark, greenish-colored mucus coming from the vagina, and after the speculum was introduced, he satisfied himself that this material came from the uterus. Microscopical examination of the discharge did not reveal any anatomical formation. The uterus was no larger than it is usually in cases of so-called chronic metritis; and especially there was no marked enlargement in the antero-posterior diameter, a most important point as bearing upon the question of the existence of pregnancy.

Dr. Garrigues, therefore, told his patient that she might be two or three months advanced in pregnancy, probably not more than that, if at all, but that he would not introduce a sound into the womb to determine positively. He did not think that she was seven months pregnant, as indicated by the cessation of menstruation. He was willing to treat the cervix, did so, repeated the application at the end of three days, and on the evening of the fourth day the patient was taken with violent pain in the loins and hypogastric region, and when he examined her he found the os open sufficient to admit the finger easily, and a round body was presenting through it. About one hour afterward the husband brought to him the specimen presented, which was, when he received it, a closed sac, with the exception of small holes that would admit a fine sound. The openings were so small that it would have been impossible for a body of scarcely any size to escape from within the sac. The outside of the mass, about the size of a goose-egg, but flattened, was rough, and, when it was cut open, the inside was found to be uniformly covered with a perfectly smooth membrane, which under the microscope proved to be structureless: that is, it had no epithelium. The specimen, however, had been in alcohol over night when examined, and it was possible that the epithelium had thus been destroyed, but more likely it was removed in another manner. The entire inner surface of the uterus was studded with cysts of various sizes, from that of a small pea to that of a hickory-nut. Some of these cysts were empty, while others contained a substance that corresponded with the greenish black material seen exuding from the mouth of the uterus. It was doubtless disorganized blood. The cysts were composed of a thin membrane, about one-sixth of an inch thick, made up simply of coagulated fibrin, and they were filled with coagulated blood. There was no trace whatever of a fœtus. The membrane which covered the entire inner surface of the uterus was the amnion. What had become of the chonori and the decidua he did not know. There was only a very moderate loss of blood at the time the mass was expelled, and the patient made a good recovery. Hemorrhages which destroy the ovum may take place in different situations. They can occur in the decidua, or between the decidua and chonori, or between the chonori and amnion, or finally they find their way into the interior of the ovum.

The society then went into executive session.

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Another Confidence Doctor.—We were recently called upon by a man who represented himself as a physician from St. Louis in straitened circumstances, who wished to obtain funds on a bogus draft. If he is no more successful with others than with us, he may soon choose other methods of living by his wits. In the meantime it may be well for our readers to look out for him.

## MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

*Stated Meeting, September* 26, 1881.

Dr. F. A. Castle, Vice-President, in the Chair.

Dr. W. Gill Wylie read a paper on

THE ETIOLOGY, PATHOLOGY, AND PREVENTION OF LACERATION OF THE CERVIX UTERI.

Under the head of etiology, the author referred to labor as the most common immediate cause. He then spoke of predisposing causes, such as intermarriage among different races, and a consequent ill-balanced relation between the size of the child's head and the cervix of the mother; abnormal conditions of the cervix itself, as imperfect or abnormal development, induration or loss of substance, and diseases of the mucous membrane. In cases in which the mucous membrane of the cervix continued diseased throughout pregnancy, laceration was very sure to occur during labor; and, even though it be slight, it might be very troublesome.

When a woman with a small and hard, or long and bent cervix, became pregnant, the cervix would soften in a great measure before labor, but it did not always become soft and perfectly normal. Even if it did soften, the cervix would be relatively feeble and small.

The immediate causes which tend to rupture the cervix during labor, even though the condition of the cervix be normal, were abortion, precipitate labor, labor in which delivery takes place soon after it begins, early rupture of the membrane, dry labor, retarded or protracted labor, instrumental labor, abnormal presentation, abnormally large fœtus or head.

After directing attention to certain points concerning diagnosis, Dr. Wylie spoke of the pathology of the lesion, and discussed the question: Why is it that lacerations are so commonly found through the lateral, and are comparatively rare through the anterior and posterior walls? The reasons given were: 1, the longest diameter of the pelvis at the brim is transverse, and therefore the longest diameter of the head is directed transversely; 2, the position and attachment of the uterine ligaments favor lateral laceration; 3, the rectum and bladder pad the anterior and posterior walls of the cervix when fully dilated; 4, the muscular structure of the cervix favors its anterior and posterior walls.

The tissues of the cervix were then studied, and the relation which they bear to the changes that occur after laceration has taken place. The causes enumerated of eversion of the tissues when the cervix had been lacerated were: 1, the condition of the cervix at the time it was torn; 2, increase in size of the soft and vascular mucous membrane and connective tissue in or near the laceration; 3, swelling or thickening in the adjacent connective tissue involving the ligaments of the uterus; 4, the upright position; and 5, pressure, under certain conditions, upon the posterior wall of the vagina and underlying parts of the floor of the pelvis.

Dr. Wylie did not accept Dr. Emmet's theory that it was the cicatricial plug which causes a hyperæsthetic condition in the womb, which, by reflex action, greatly disturbed the health of the patient in some cases. He thought the condition was similar to what was found in other portions of mucous membrane where there was no cicatricial plug; for example, sensitive spots in the vaginal cervix, in the

female urethra and vagina, in the prostatic portion of the male urethra—points which were equally sensitive and produced very similar reflex disturbances.

With regard to prevention of laceration of the cervix, Dr. Wylie believed that much might be done by treatment previous to and close attention during labor, and also that the accident could be limited and its serious effects be restricted. He regarded morning sickness as a quite certain indication that the neck of the uterus was in an unhealthy condition. Leucorrhœa during pregnancy should be treated He believed that, with reasonable care, many more cases of abortion and premature labor could be obviated that were caused by improper local treatment. Application could be made to the cervical canal to the distance of three-fourths of an inch, and tepid vaginal injections could be used with safety during pregnancy. For the relief of morning sickness he had found dilatation of the cervical canal for three-fourths of an inch perfectly successful, not only in relieving the symptom, but in softening the hardened condition of the cervix so commonly associated with it. He thought if obstetricians would take as much pains to prevent laceration of the cervix as they did to prevent laceration of the perineum, much would be done to avoid the occurrence of this accident. The membranes should not be ruptured until absolutely necessary. The dilatation of a rigid os should be carefully and slowly assisted by means of dilators. Violent voluntary expulsive efforts at the time the head is passing through the cervix should be controlled, if necessary, by anæsthetics, and an effort should be made to regulate the expulsive force with the fingers against the head. The timely and skilful use of forceps in retarded labor often prevented sloughing and some of the more serious forms of laceration of the cervix. When used, the cervix should be dilated as much as could be done safely before the instruments were applied.

Dr. W. M. Chamberlain regarded Dr. Wylie's paper as one containing the results of careful observations accurately stated, and it was also full of suggestions, some of which were rather novel and interesting. The idea of hybridity as a predisposing cause of laceration of the cervix he regarded as novel, and yet he could easily see the philosophy of it. Dr. Wylie had indicated many of the points at which abnormal resistance might exist within the pelvis, and, while doing so, Dr. Chamberlain had thought particularly of that condition of imperfect development known as hypertrophy of the supravaginal cervix, accompanied with a conical os presenting anteriorly to the pubic arch. That was not an uncommon deformity, and, as a rule, it was encountered in sterile women, because the expansion and elevation of the uterus during gestation so far modified this condition as to render it less easily recognized. It had been accounted a frequent cause of sterility, and undoubtedly was such; still such women did become pregnant, and then the faulty development affecting the connective tissue, which makes the pubic arch the point of support in the main, for the uterus—namely, the intimate relation of the uterus with the bladder and with the coccygeal and obturator fascia and muscle, became the occasion of disturbed mechanical conditions. That is, if those tissues had become condensed and infiltrated as the result of disease, the uterus was stinted in its growth in front, and being so stinted, it developed along its posterior wall and produced the deformity, just as pleuritic adhesions formed in childhood do sometimes give rise to the curvature of the spine which shows itself as the frame develops after puberty. He believed that that condition predisposed to the occurrence of laceration of the cervix; for it not only confined the uterus to the pubic arch and rendered the anterior lip comparatively immobile, but, by a pouching of the posterior wall of the uterus, it permitted a disproportion of force to be applied to the posterior lip.

With regard to the action of the suspensory ligaments being the main cause of eversion of the lips of the lacerated cervix, Dr. Chamberlain thought that Dr. Wylie's view in that respect was somewhat novel. Dr. Sims had pointed out that when the circular fibres of the cervix were torn the natura antagonism to the action of the longitudinal fibres was destroyed, and therefore the latter retracted the lips of the torn cervix, and gave rise to the eversion.

Dr. Emmet had made more prominent what would seem to be a mechanical cause, in calling attention to the fact that the lips of the lacerated cervix were brought in contact with the walls of the collapsed vagina, and that the eversion was produced by friction.

Dr. Chamberlain suggested another cause for the eversion, which, to distinguish it from the physiological and the mechanical, he called *vital*; that is, he believed the cause of the eversion, in many cases, was nutritive, and he based his conclusion upon the following observations:

As often as he had seen laceration of the cervix, not quite transversely, but with one or the other angle turning upward, sometimes both, sometimes both turned downward, it had been a constant observation that the eversion was the greatest in the narrowest segment, and it was in the narrowest segment also that he had noticed the greatest amount of cystic degeneration and increase of connective tissue, sclerotic, semi-cartilaginous, causing and constituting the eversion. Moreover, when, as is generally the case, the prolonged use of the glycerine tampon is followed by absorption of this hard tissue, and puncture, followed by iodine, destroys the cysts, the eversion diminishes, though all other conditions remain the same.

With regard to the means to be employed for preventing laceration of the cervix, Dr. Wylie's recital would receive general assent. There might be, perhaps, some hesitation with reference to dilatation of the cervix, as indicated by morning sickness. He was not prepared to say that in every case of ordinary morning sickness dilatation of the cervix should be resorted to, but he was prepared to say, however, that the most aggravated cases of puerperal nausea had yielded to that treatment. He had employed the means, and would not hesitate to adopt it as a *dernier ressort* when medicinal treatment had failed.

Dr. H. J. Garrigues had listened with great pleasure to the elaborate paper, and there were only a few points upon which he entertained opinions at variance with those given by the author. With reference to the occurrence of the accident more frequently in this country than in foreign countries, and intermarriage of races as a predisposing cause, he doubted the correctness of Dr. Wylie's views, and believed that the great reason why it occurred apparently more frequently here than elsewhere was that the lesion was pointed out first by an American surgeon, who also gave a method of treatment, and the condition had not been recognized abroad as generally as in this country. In those parts of the world where Dr. Emmet's views had been recognized and his treatment adopted, ample material had been obtained for the operation. For Denmark he

could give some details, and in the city of Copenhagen, containing about two hundred and fifty thousand inhabitants, Dr. Emmet's operation had been performed sixty times by one surgeon.

With regard to the location of the laceration, Dr. Garrigues had not seen, nor did he recollect ever having seen a representation of a tear in the median line in the anterior or posterior lip without other lacerations. Of course, by far the most common form was that upon the left side, a little anterior to the centre, and next the stellate variety.

Among the causes, Dr. Wylie had mentioned the action of the utero-sacral ligaments as preventing laceration antero-posteriorly, but he doubted the correctness of that view. Dr. Garrigues thought that those ligaments were inserted too high up to have that power, for they passed off from a point corresponding to the internal os, and he thought that a laceration did not extend so high as that. With reference to prevention of the accident, he thought Dr. Wylie's remedies were very apt, and he could corroborate the results obtained, with the exception of those following dilatation, which he had not employed. He had used moderately astringent injections, vaginal and cervical, and had made local applications of the tincture of iodine, carbolic acid, etc., without provoking abortion and with apparent benefit to the patient.

Dr. Paul F. Mundé had not been able, for himself, to determine exactly what the cause of laceration of the cervix was, except in those cases, perhaps, in which it was manifestly due to mechanical injury. Dr. Bennet, of London, had expressed the opinion that the real cause existed in inflammatory infiltration of the cervix, but Dr. Mundé thought that the claim could not be maintained. Perhaps that condition existed to a certain extent, but he thought that it did not occur very frequently, and, besides, he did not believe that it could be proved that it was present. He had been unable to determine how to prevent the occurrence of laceration, simply because he did not know where it was to occur. Any means which would prevent too rapid labor, too rapid passage of the child's head through the cervix, doubtless would lessen the frequency of the occurrence of laceration.

Dr. Sell remarked that he had seen several antero-posterior lacerations, anterior as well as posterior, also bilateral posterior and bilateral anterior. He also referred to treatment without surgical procedure.

Dr. Putnam-Jacobi thought that Dr. Wylie's data were theoretical rather than those obtained from cases studied during the anterior history of the patient and compared with what occurred during labor. It seemed to her very certain that the accident could not be attributed to any general condition, as insufficient nutrition or imperfect development of the uterus, inferred from a more perfect or higher mental development of the patient.

It might be possible, however, to bring out some elementary conditions, and one of those which had been most frequently referred to was œdema of the cervix. When laceration was first pointed out, great stress was laid upon œdema as a cause, and consequently the timely application of the forceps has justly been considered as a means of prevention as frequently as an agent for causing the injury. To the same elementary condition, œdema, could be referred those cases of Dr. Bennet, of London, in which chronic catarrh had preceded labor where labor occurred; but the question of œdema could be thoroughly understood after analyzing it still further and estimating its effect upon the contractility of the smooth muscular fibre. Ranvier, in his recent researches upon the contractility of smooth muscular fibres, had pointed out this peculiarity, that the smooth muscle contracts in its sheath, that there is no independent contraction of fibres as in the striped muscle, and it was conceivable that the enfeeblement by liquid of the unstriped cells which make up the sheath would interfere with the propagation of the contractile wave, and in that manner interfere with contraction. It was quite probable that œdema existing in consequence of cervical catarrh was the efficient cause of the flexion which succeeded the catarrh.

Dr. Putnam-Jacobi pointed out further, that in a normal labor the lower segment of the uterus should have finished its contraction and become reduced in its condition of elasticity before the upper segment began to drive the head of the child through; consequently, in the most typical and efficient form of labor, there was nothing to prevent the head from being pushed through, because the lower segment of the uterus is in a non-resisting condition; but if, on the contrary, the upper segment contracted too violently, the head was driven against the lower segment and an injurious degree of pressure exerted before the elasticity of that segment has been sufficiently reduced to avert the effect of it.

Dr. Wylie, in concluding the discusssion, said that he had seen antero-posterior laceration at the Woman's Hospital, although he had not met with that form in his own cases.

With regard to the utero-sacral ligaments, he did not think that they acted in all cases as a cause of laceration, but when the head carried the cervix very low down, then the tendency to pull the cervix back might be an efficient cause of laceration; but only in certain cases.

With regard to the attachment of the ligaments, he thought that they were more or less attached to the lower portion of the cervix, and, therefore, might be more or less efficient factors in the causation of laceration. With regard to inflammation being a cause of laceration, he was satisfied that he had seen three cases, at least, in which it was. His view was that by the inflammation the tissues of the cervix were weakened, and when in labor the cervix was placed upon the stretch, the least tear would extend much farther than if the tissues were in a perfectly healthy condition.

With reference to the data upon which his paper was based, they were such as he had obtained by the study of cases before and during pregnancy, and during and subsequent to labor.

On motion by Dr. Piffard, the thanks of the society were extended to Dr. Wylie for his interesting paper.

The society then adjourned.

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International Medical Congress.—We understand that the proceedings of most of the sections of the late International Medical Congress will shortly be published and sold in a separate form. In view of the ultimate distribution by mail of the complete proceedings, the members of the International Medical Congress in the United States, residing in large cities, who neglected to give their full address when registering, should send the same at once to Dr. William McCormack, 14 Harley street, London, Eng.

# Correspondence.

## IS GUITEAU INSANE?

To the Editor of the Medical Record.

Sir: The writer of the very objective and fair editorial in The Medical Record of October 22d, does not seem to have had at his disposal the following facts, which, if duly weighed, would, I believe, render him more positive in assigning Guiteau to the class of the unquestionably insane. 1st. Guiteau entertained the delusion that if he obtained a certain position in a foreign embassy, a wealthy woman would marry him and endow him with a million dollars, wherewith to maintain his social position. This idea either was a delusion without any basis whatever, or with so frail a basis as to warrant the formation of such a day-dream to no sound mind; at all events, it was an insane conception. 2d. The letter found in his pocket after the assassination, ordering General Sherman to take possession of the jail, aside from its general tenor, which would immediately rouse the suspicions of any experienced alienist, can be interpreted in only one of two ways, either as an attempt to sham insanity on the part of the writer, or as an isolated but distinct proof of actual insanity. 3d. That Guiteau when arraigned for trial was checked in attempting to read a document, which, however, found its way into the columns of the New York *Herald*, and is an even more characteristically insane document than the letter to General Sherman. 4th. That as far as an almost unanimous testimony of lay witnesses and existing pictures of the assassin permit us to judge, Guiteau has the characteristic "insane manner" in a high degree, as well as a suspicious cranial configuration. 5th. That six months before the assassination, Guiteau applied, if I recollect rightly, for a pension, and the examining surgeon made this brief but today weighty marginal note to the application, now on file: *Applicant is insane!* 6th. That Guiteau used to have a placard in his room reading "Guiteau, Premier of England," and on different occasions gave other evidences of entertaining the ambitious delusions of what the French term *megalomanie*, and which Marcé more happily designated as *folie systematisée*. To be brief, I would say that the just pride of American psychiatry, Isaac Ray, would today turn around in his grave if he had heard the latter-day members of the association, whose conservative policy he was the ablest defender of, declaring Guiteau sane, in newspaper interviews, held after the assassin's hereditary relations, his documents, and other details had become known. When Mr. Blaine, Senator Logan, nay, the deceased victim of the assassin, and an impartial physician had recognized the insanity of Guiteau, and some of those who are supposed to devote their lives to the care and study of the insane unhesitatingly pronounce him sane, the value of the "asylum experience" argument becomes finely illustrated.

The claim made in several journals that Guiteau is legally responsible, because "he knew what he was about," now shows a fear of death, took measures to secure himself against mob violence, etc., sounds rather like the prevailing cant among a certain class of lawyers than the deliberate opinion of scientists. No competent alienist ever attached weight to the apparently and at times actually methodical actions of lunatics, except to consider those very lunatics more dangerous than their weaker-minded comrades, and therefore believed it incumbent to sequestrate such lunatics, before all others, for the safety of society. There is not a scintilla of doubt in my mind, that if Guiteau with his hereditary history, his insane manner, his insane documents and his insane actions were to be committed to any asylum in the land, he would be unhesitatingly admitted as a proper subject for sequestration. The conclusion concerning his legal responsibility following from this is so self-evident that it will require no rebuttal of the "mad dog" argument urged in interviews and even in acknowledged works of merit, on my part, to distinctly set it forth. If the ridiculous dictum were to prevail, that lunatics are to be held responsible for all acts whose nature they appear to understand, our experts might sink to the intellectual level of the jury that pronounced Gosling sane, because he seemed to be well posted on the trial, without any loss to the science of medical jurisprudence. Gosling, in some respects at least, would at that time have behaved less absurdly than Guiteau; within sixteen months thereafter he died of paralytic dementia in a private asylum near Philadelphia!

A thorough study will convince an impartial and competent jury of medical examiners, before whom such a case should be laid, that Guiteau is not only now insane, but that he was never anything else, that his crime was the offspring of insanity, and that in every act he will betray the characteristic features of querulent monomania. They will also conclude that, inasmuch as his insanity is not the result of his own vices, but based on a defective organization inherited from a diseased ancestry, anything like responsibility, complete or partial, is out of the question.

Not a day passes but adds another to the accumulating evidences in favor of the view here expressed. In a recent issue of the *Herald*, I find that the assassin has threatened President Arthur that unless he is allowed fees for witnesses, etc., he will publish documents that will ruin the Republican party. What but a complete confusion of the logical apparatus can account for such vaporings, evidently made in all seriousness?

It will be a matter of regret if the Guiteau matter ever comes before a jury. The temper of the whole land, and justly so, was never before so much excited against an individual as against this assassin. Sane or insane, the narrow-minded official conducting this trial, whom Judge Hoar has already censured for his intemperate zeal that has carried him on more than one occasion beyond the legal limits in this case, will find "experts" who will be only too willing to chime in with the public against what public prejudice stigmatizes as the "insanity dodge." And while the death by the gallows of a lunatic, and particularly of one presenting the repulsive though morbid features of Guiteau, may be no material loss to the land or his family, yet it is to be feared that his conviction, which, if he is, as I strongly believe, clearly insane, would be nothing but a formal lynch process, will reflect great discredit on American medical jurisprudence.

The one feature of which the profession may well be proud in connection with the Guiteau case, is that the insanity of the assassin was recognized by many of our journals, edited by practical physicians, while, in uncreditable contrast, an organ of asylum

officers expresses itself rather adversely to that idea, and several superintendents of asylums pronounced Guiteau sane to newspaper reporters.

Yours, etc., PHILALETHAS.

[Our correspondent presents his side of the case very strongly. There is not, however, enough of substantiated evidence to weaken materially the view we have taken.—ED.]

## VIRCHOW'S TRIBUTE TO AMERICAN MILITARY MEDICINE.

TO THE EDITOR OF THE MEDICAL RECORD.

DEAR SIR—There was, by some mistake of mine, an omission in my "Address," published by you in the last number of the MEDICAL RECORD. Unless space forbid, after you have sacrificed so much of it in my favor, I ask you to print these additional lines. The last half of them, containing a quotation from Virchow, will prove a source of interest and gratification to the profession.

Very respectfully yours,
A. JACOBI, M.D.

The addition comes in after the line "like the best and noblest of us," near the bottom of the second column, p. 457, and reads as follows: as also, for the rank and file of the practitioners of medicine, he is the model of a professional brother and colleague. He is one of the most assiduous and regular members of the local medical societies, participating in scientific discussions, and serving the common interests of the profession. The same spirit of humanism and solidarity which presses him into the service of the city and country, makes him an active associate of the medical community. Too often do we meet the contrary. Those who have risen and advanced, partly through their own efforts, partly, however—and not very rarely—through the favor of their fellows, are too apt to forget that they are but branches of the same tree. In our own midst we notice too frequently, that those whose co-operation and example would make them the most desirable members, keep away from the societies of the county, State, and others. The individualism and egotism of the industrial period of the nineteenth century, so rife among the manufacturing and commercial classes, threatens to invade the medical profession to an undue extent. There is no man, however, who sacrifices more time, and does more work to foster professional feeling and brotherhood, than Virchow. Hardly any of the great scientific national and international associations and congresses takes place without Virchow being present. No question arises where universal knowledge and the weight of a great name are required, but his voice is heard. But lately, in London, he raised it in favor of protecting and saving the physiological experiment.

Both his universality and urbanity, as also his sense of justice, are of peculiar interest to us, the American profession. Many are the occasions on which he expressed his appreciation of the republican autonomy of the medical men in this country, of the efforts on the part of medical societies in behalf of the suppression of quackery, and also of the scientific results of American medical labor. Let me quote but one passage from an oration delivered on August 2d, 1874, "On the Progress of Military Medicine." Virchow says (page 6):

"The French army lost, in the Crimean war, thirty-three per cent. of its men, viz., 95,615. Of this number, 10,240 were killed on the battle-fields, and about as many died of their wounds in the hospitals. More than 75,000 men died of infectious diseases. In the American civil war 97,000 died of their wounds, and 184,000 perished of infectious and other diseases. What a vast amount of pain and misery! What an ocean of blood and tears! And besides, what a number of errors, mistakes, and prejudices! It is not necessary to now enumerate the long list of blunders and sins. They are so well known as to serve in the future as warning examples.

"Let me say here that it was not misfortune alone that showed where the cause of the evil was, and then provided aid. If the French learned little or nothing in the Crimea, and the Americans so much in their civil war as to create a new era in military medicine, the explanation is not to be sought for in the immensity of misfortune and misery undergone by the Americans, for they did not suffer any more than the French did in the Crimea. The explanation is in the critical and thoroughly scientific spirit, the clear perception, the sound and practical common sense which penetrated gradually every part of the American military administration, and which, with the astounding co-operation of an entire nation, accomplished more humane results than any great war ever produced before. Whoever studies the copious publications of the medical staff of the American army, must again and again be astonished at the vast experience collected in them. Absolute accuracy of details, the most painstaking statistics, acquaintance with all branches of medical learning, and a comprehensive style, are united in them for the purpose of collecting and preserving, in the interest of the present and future generations, the new knowledge so dearly bought."

So says Virchow.

## PIGEON-LICE INFESTING THE SKIN OF A WOMAN.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Some time last spring, a tall, gaunt, cachectic woman, with a yellowish skin, but pearly white sclerotics, came to my office, complaining of intense itching all over her body, avowing that her trouble was caused by insects crawling over her. I examined quite carefully, but I could find none. She maintained, nevertheless, that she had often seen them crawling out of her skin and crawling in again.

As a number of patients happened at the time to be waiting, I told her to go home, and when any more of the vermin began to crawl over her, to catch some of them, put them in a phial, and bring them to me.

In a few days she came again, this time bringing a phial containing a number of small insects, with which, unfortunately, I was not familiar.

Moreover, she said she came prepared to show me the insects crawling out of her skin, for she had found that, as soon as she began to sweat from any cause, they would crawl out of her skin and over it, and that, if I had the time to spare, she would show the going in of the same. I told her I was ready, and forthwith she put on some wraps which she had brought with her, and drinking a bottle of hot tea, drew near the fire, and soon began to sweat.

As soon as the skin began to moisten, small black or brownish insects emerged singly, in pairs, or in triplets, from numerous points. After the sweating ceased, the insects, as the woman asserted,

crowded into her skin again. *The points where they entered and emerged were the sweat-pores*, which made cosey nests for them at ordinary seasons, but were apparently not to their taste when deluged with sweat.

I sent the specimens which had been caught to my old friend, Dr. John Le Conte, of Philadelphia, whose inquiry into such questions is a sort of court of last resort. He answered that the insects were *pigeon- or hen-lice.*

When the woman came again, she stated, on inquiry, that she had no chickens about her house, but that there were some pigeons nesting in the garret, and that she sometimes handled them and cleaned their nesting-places.

The woman was finally directed to get rid of the pigeons, wash the nesting-places with tar-water and a solution of corrosive sublimate (twenty grains to the bucketful). As to those upon her person, she was advised to take sweats occasionally, and, when the lice began to scamper about, to rub over her person sulphur-powder, made into a sort of cream with tar-water, and to boil her clothes. She has not had further trouble with the lice.

During a recent visit to Philadelphia I called on Dr. Le Conte, and asked him to give me some information, if any he had, about these lice. He was good enough to have his secretary transcribe the following, which I take to be the sum and substance of what is known about the matter:

*Economic Entomology—Aptera*, by Andrew Murray, F.L.S., "South Kensington Handbook."—"No. 16. Dermanyssus Nitzschll (Giebel, in *Zeit. Ges. Naturw.*, iv., 29).—16, enlarged figure of ditto, copied from Giebel's figure.

"This is the species from the nostrils of the goat-sucker, of which we have above spoken. It feeds on the blood of its victims; it is as big as a head-louse, and as many as twelve to fifteen were found together in the nostril of the same bird.

"Nos. 17, 18, 19, 20, 21. Dermanyssus Avium (Dug.).—17, enlarged figure of ditto, empty; 18, specimens thereof; 19, vignette (realistick chick); 20, enlarged figure of ditto, fed; 21, specimens thereof. The so-called 'tick' infests domestic poultry, canaries, and other cage-birds. It lives especially in fowl-houses and on the inhabitants, and they sometimes migrate from the birds to the persons of those who have charge of them, and occasion them much annoyance. Alt (a German observer) saw these, or a mite which he supposed to be of the same species, upon the neck and arms of a cachectic old woman. According to him they were white, of the size of a grain of sand, extremely agile, and slipped out of little excavations (occupying the space of 1½ square line), ran over the skin, and back again into their holes.

"Simon narrates a case in which the mite nestled upon the skin of a woman, who was otherwise healthy. She was constantly infested with little louse-like animals, notwithstanding great cleanliness and many attempts at extirpation of the mites, which were recognized by Erichson as the Dermanyssus avium. It was found at last that the woman went several times daily into the cellar, over which the hen-roost lay. As often as this was the case, the fowls flew up into their roosting-place, and by this means the woman was sprinkled with mites. The removal of the hen-roost cured her of her supposed phthiriasis. (Kuchenmeister Manual: Parasites, vol. ii., p. 64.)

"It also infests dove-cots, although no doubt it is sometimes confounded there with the Argas reflexus, which is more especially assigned to pigeons.

"It may be most easily observed in the cages and aviaries of singing-birds, and they may harbor there, even although the most scrupulous cleanliness is exercised, especially if the perches used for the birds are made of hollow canes, and not solid wood; it is in these hollow canes that they most particularly harbor, and we may generally find them there at all seasons of the year. But it is very probable that, although it is in these recesses that we find them when we seek them during the day-time, they sally out during the night and settle on the sleeping birds, in order to suck their blood. That they do so is shown by their digestive organs being generally full of it in all individuals, both young and adult. It is this blood which gives to these animalcules their color, which is dark purplish or brown, when they are filled; when empty, they are colorless. In the same retreats are found a multitude of excessively fine exuviæ, or white cast-skins, attesting sufficiently numerous moulting. In this heap are seen also colorless eggs, ellipsoid, nearly equalling in length the fifth part of the adult animal, which is scarcely a third of a line at the most.

"These eggs are said to become larger in maturing, and to take gradually, like those of the spider, the form of the young one which is coming out. The young have only six feet; the body is much longer and more inflated than that of the individuals of the same size which have already their eight legs; these last are slenderer and more agile, and the posterior pair are much longer than the body, and continue pellucid and colorless as at first; but it is not long before they go and fill their stomachs, and the blood that they swallow makes them bright red at first, then dull, then brownish, in proportion as it becomes more altered and digested.

"Bory de St. Vincent (Ann. Sc. Nat. Ist., ser. xxxv.) relates that a woman, forty years old, who felt the most intolerable itching all over her body, had only to scratch herself to see minute mites come out of her skin; but none of them spread to, or propagated the disease to, her attendants. Gervais named this species Dermanyssus Boryi, in compliment to the narrator."

Hoping this narration may be of some interest to your readers,

I am, yours, etc.,

M. Goldsmith, M.D.

Rutland, Vt.

## ARMY NEWS.

*Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from October* 16, 1881, *to October* 22, 1881.

Tremaine, W. S., Capt. and Asst. Surgeon. The extension of his leave of absence on surgeon's certificate of disability granted him in S. O. 112, May 16, 1881, from A. G. O., still further extended three months on surgeon's certificate of disability. S. O. 238, A. G. O., October 20, 1881.

Dickson, J. M., Capt. and Asst. Surgeon. Granted leave of absence for four months. S. O. 232, A. G. O., October 13, 1881.

Adair, G. W., Capt. and Asst. Surgeon. Upon relinquishing unexpired portion of his present leave of absence, relieved from duty in Department of the East, and to report in person to commanding general, Department of Dakota, for assignment to duty. S. O. 230, A. G. O., October 11, 1881.

KILBOURNE, H. S., Capt. and Asst. Surgeon, Fort Porter, New York. Granted leave of absence for one month with permission to apply for two months extension. S. O. 182, Department of the East, October 11, 1881.

GARDNER, E. F., Capt. and Asst. Surgeon. Granted leave of absence for four months, with permission to apply for an extension of two months. S. O. 238, C. S., A. G. O.

## Medical Items and News.

CONTAGIOUS DISEASES — WEEKLY STATEMENT. — **Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending October 22, 1881.**

| Week Ending | Typhus Fever. | Typhoid Fever. | Scarlet Fever. | Cerebro-spinal Meningitis. | Measles. | Diphtheria. | Small-pox. | Yellow Fever. |
|---|---|---|---|---|---|---|---|---|
| Oct. 15, 1881. | 0 | 46 | 75 | 4 | 6 | 88 | 5 | 0 |
| Oct. 22, 1881. | 0 | 30 | 113 | 3 | 13 | 86 | 10 | 0 |

PHI EPSILON.—A fraternity of this name has recently been established at the College of Physicians and Surgeons, New York. Its object is to promote a spirit of friendship among the students.

DR. J. GASPARD RIBAND, Professor of Anatomy in the Montreal School of Medicine and Surgery, and an eminent practitioner, died in Montreal, Wednesday night, October 19th.

CONSULTING WITH HOMŒOPATHS.—Dr. J. B. Stair, of Spring Green, Wis., writes: "Without presuming to criticise so eminent a man as Dr. Bristowe, it seems to me that medical men of the orthodox school must always take exception to such opinions as he is reported as expressing concerning consultation with homœopathists. It appears to my humble understanding that since so radical a difference exists between the doctrines of a regular physician and of a homœopathist, that, following these doctrines, any union of opinion as to the treatment of a given case would be *of necessity impossible;* it would be the sheerest folly to enter into a consultation that could end in no other way than in total disagreement. As well consult with the representative of any other ism as with that of Hahnemannism. Regular medicine —I say it without egotism, for it is a fact—embraces the best, in fact all there is of scientific, rational treatment of disease. Homœopathy (I refer to vol. xii., "Encyclopædia Britannica") has no scientific foundation. Let homœopathy give up her narrow tenets, and treat disease upon broad scientific principles, then Dr. Bristowe's suggestions could be favorably considered.

THE LATE DR. EDWARD T. DALE, of Texarkana, Ark., died suddenly at Little Rock, Ark., September 19th, at 3 o'clock P.M.

Dr. Dale graduated at Long Island College Hospital, in the year 1873, and in the fall of that year began the practice of medicine at Fulton, Ark., being associated with Dr. R. B. Christian of that place. In the early part of the following year he moved to Texarkana, where by constant application he succeeded in building up a large and lucrative practice. His deep interest in all public affairs thoroughly identified him as a leading and most useful citizen. Dr. Dale was one of the organizers of the State Medical Society of Arkansas in 1875, was one of its first vice-presidents, and in 1879 was elected president, which position he filled most creditably both to himself and to the society. He was also a member of the American Medical Association.

Dying at about the age of forty, in the prime of life and in all the vigor of manhood, his death is to be sadly deplored by the profession, of which he was a prominent and useful member, by the community as a most valuable citizen, and by his widow and two orphans as a kind husband and loving father.

A FIRE ON WARD'S ISLAND.—A fire took place a short time ago in the two-story building forming the kitchen and laundry of the Homœopathic Hospital on Ward's Island. Before help could arrive the building was nearly consumed. Six hundred patients were safely removed from the adjacent hospital and then brought back again.

MICROCOCCUS UREÆ.—Dr. George M. Sternberg, Surgeon United States Army, writes: "In my paper, entitled 'An Instructive Experiment,' published in THE MEDICAL RECORD, of September 24th, the generic name of the micrococcus which produces the alkaline fermentation of urine (*Micrococcus ureæ*, Cohn), has in several places been improperly changed by the printer or proof-reader to read *micrococci ureæ*, a small m being used instead of a capital letter, and the generic name being put in the plural, which is evidently inadmissible. The specific name, *ureæ*, adopted by Cohn for this micrococcus, is in the genitive case, and not in the nominative plural, as has, perhaps, been supposed by whoever made the change referred to.

The following correction should also be made: On page 340, first column, sixth line, for *ru*dimentary read *se*dimentary.

THE THERAPEUTICAL USES OF ERGOT IN NERVOUS DISEASES.—The now widely extended use of ergot in various nervous disorders make the following clinical notes regarding the drug of considerable interest. They are furnished by Dr. J. G. Rogers, superintendent of the Indiana Hospital for the Insane:

In this connection I will note the fact again that it is not alone to the influence of ergot and the bromides on the blood-vessel calibre that the potent effects are due, but that they both peculiarly and not exactly similarly do possess a power to repress excessive nerve-life to a certain extent. The bromide and ergot combination is used in such cases as do not positively require chloral. In milder types of active mania, ergot alone has seemed to exert a decided curative influence, and a large number of such cases have been solely treated with this agent with satisfactory results.

The experience of the year presented in the clinical records, in which the history of every patient is regularly kept, as explained in my last report, fully endorses the efficacy of ergot as a means of controlling cerebral plethora, whether active or passive. Its action is prompt and can be maintained in the majority of cases indefinitely without detriment. Beyond its special effect on the vasomotor system, which is now generally recognized, there is every reason to believe that it exerts a peculiarly con-

trolling inflence over the molecular life of nervous tissue when that life has gone beyond the physiological mean of activity and has become erethetic, excessive, and self-destructive—what in another less mysterious tissue would be recognized as inflammatory. Practically it does control mental excitement whenever associated with congestion, whether the subject be anæmic and exhausted, or otherwise. In cases of acute mania it seems to be always more or less applicable, and in the acute exacerbations of chronic mania it is equally so. Having no direct hypnotic effect, however, in those cases when delirium has lasted for many days and nights without ceasing, and the patient must either sleep or die, as is often the case when admitted, it is necessary to assist its action with chloral hydrate. This latter agent of itself in full dose tends to produce a secondary passive fulness of the head, but this effect is obviated by the ergot.

Carrier-Pigeons as Doctors' Assistants. — We learn from reports in the papers that carrier-pigeons are being made very useful by co intry doctors in this State and Pennsylvania.

A physician, of Erie, Pa., is training homing pigeons for use in his practice. Some of his young birds, put upon the road to make records for distance, have made very good time, viz., fifty miles in ninety minutes, sixty-six miles in eighty-two minutes. Homing pigeons are largely used by country physicians both here and abroad. One doctor in Hamilton County, N. Y., uses them constantly in his practice, extending over nearly two townships, and considers them an almost invaluable aid. After visiting a patient he sends the necessary prescription to his dispensary by a pigeon; also any other advice or instruction the case or situation may demand. He frequently also leaves pigeons at places from which he wishes reports of progress to be despatched at specified times, or at certain crises. He says he is enabled to attend to a third more business at least through the time saved to him by the use of pigeons. In critical cases he is able to keep posted by hourly bulletins from the bedside between daylight and nightfall, and he can recall case after case where lives have been saved that must have been lost if he had been obliged to depend upon ordinary means of conveying information.

Slow Pulse.— Dr. J. A. Rice, of Bridgeport, Conn., gives the following account of personal observations on the rate of his heart-beat: "Lying down, 36; sitting, 38; standing, 41; after walking one mile, 43; after walking two miles, 46; after violent exercise, 52 per minute. Beat counted at the apex-beat to avoid error. The other members of my family have natural pulses. I first noticed my peculiarity eight years ago, since which time it has not changed. I have not been sick enough to know what effect a fever would have on it. I have no valvular lesion or other trouble with the organ, though it is at times a little irregular. My health is at all times excellent. I know of no cause for the slow rate. My age is under thirty."

Aphorisms in Doubtful Cases of Pregnancy.— Dr. Robert Battey, at the late meeting of the American Medical Association, enunciated the following rules as a guide to diagnosis in abdominal enlargements in females: 1, always consider a married woman pregnant, if living with her husband, until *proved* otherwise; 2, always consider an unmarried woman innocent until *proved* guilty; 3, always believe a woman married, of the highest character living with a husband of equally high character, both solemnly assuring the medical man that no intercourse has taken place for two years, as she has been bedridden for that length of time, may bring forth a dead fœtus; 4, always believe a young unmarried woman, with abdominal tumor, of high social position and unimpeachable virtue, if she has been watched over by a platonic, abstemious young cousin of the male persuasion, while the mother went out, to be pregnant.—*Michigan Med. News.*

A New Infectious Disease.—The *Michigan Medical News* quotes from a local paper the following: "There were fifteen pairs of twins born in Port Huron during the present year, and hundreds of families who have been exposed are anxious less the disease be contagious."

A Professorship Wanted.—The following letter has been received by Dr. Cook, the editor of the *Cincinnati Medical Gazette:*

"Mr. W. H. Cook, M.D. Dear Friend Doctor I am sorrey to say I did not get to see you when at your place and to Learn of your Ill health; Hoping that by this time you are at work a gan in the class: I think I will be down to see you a gan in a short time if I well a nuff posted would like to worke in some one of our colleges next winter on materia medica or surgeory as I want to do all in my power to keep our colleges up and prospering I dont care as for the great a mount of money maid but see the Bisiness in our cause go on and Be advancing Doctor if you would hapen to have a vacant place on Either of these to Branches of studdy I will take Either one of them If I can make my Bord while at the Turm Leet me know soon in Reference to this well doctor I have a noble Practise here and am diewing as well as I could wish to do Eney where Hoping to Here from you soon I remain yours Respectfully, T. L. H., M.D."

Dr. Cheyne and Beau Nash.—When Cheyne asked Beau Nash if he had followed his prescription, his witty patient replied, "No indeed, doctor, for if so, I would have been dead." "How so?" asked the doctor aghast. "Because," said Nash, "I threw it out of the window."

Administration of Tannin.—According to a recent article by Dr. Lewin, in Virchow's *Archiv*, it should be borne in mind that when tannin enters the stomach it forms with albumen precipitates which require for their solution an excess of albumen, of lactic, or of hydrochloric acid. If the albuminate be not soon dissolved, especially if the tannin has been given in the form of powder, the solid particles are likely to adhere to the gastric walls, and produce extensive irritation of the mucous membrane. To avoid this, the tannin should be given either as a solution of albuminate of tannin or as alkaline tannate, and not in the form of a powder. A solution of albuminate of tannin is readily prepared by adding a solution of albumen to a solution of tannin till the precipitate at first formed is redissolved in the excess of albumen. This, if made alkaline by the addition of soda carbonate, is still more readily absorbed.—*Boston Med. and Surg. Journal.*

A Remedy for Trichinosis.—Dr. J. M. Baston claims to have successfully treated four cases of trichinosis with large quantities of glycerine. The treatment is based upon the fact that immersion in glycerine proves fatal to the parasite.—*Gaceta Med. de Sev.*

# Original Communications.

## THE ACTION OF MERCURY IN SYPHILIS.*

By EDWARD B. BRONSON, M.D.,
NEW YORK.

It is not surprising that the introduction among the *materia medica* of substances so potent in their modifying influence upon the animal economy as are mercury and its compounds, should have created a stir in the world of medical thought. The result has been theories without number and most incongruous, controversies the most bitter and uncompromising, and a literature so vast that it can scarcely be named.† But out of this great product what is the yield of solid fact? Is anything established with regard to the therapeutics of mercury which, in a given instance, enables us to say its action upon the disease is thus and so?

It is a remarkable fact that among remedies in common use there are none of which our knowledge is less positive than it is concerning mercury. It may be said that of all the virtues which have been attributed to it, there is not one which has not been denied; and, likewise, that there is scarcely a virtue in therapeutics that has not at some time been claimed as its attribute. But it is altogether improbable that so much labor and activity in any department of study should have been entirely fruitless. Doubtless we are now nearer the truth than ever before. It is my purpose in this paper to examine the aspects of the problem as they are presented to-day; by groping through the maze of research and speculation to seek for some tangible basis on which to found a rational theory of mercurial action. I am fully aware of the difficulties in such a task, and can hope only for a partial success. In order better to define the inquiry, as well as to limit its scope, I have taken as my objective point the action of mercury in syphilis.

Before predicating anything concerning the action of mercury, it would seem to be important to know something regarding the form in which the mercurials exist after their introduction into the body. But, unfortunately, here all is conjecture. Whether all mercurials tend to a common form, or whether each preserves its own character and individuality, are still open questions. From their effects we should infer that they all act nearly alike; but this does not necessarily imply that they are all converted into a common form. It may be said that in every mercurial compound it is the base which determines the physiological or therapeutic action; but still the question remains, How does mercury act?

The opinion prevails that in whatever way mercurials are exhibited, the absorption of them takes place after solution in the fluids of the body. How this solution is effected can only be inferred from what is known to take place outside the body. Any vital factor must be ignored. In the primæ viæ we know that the mercurials would meet various substances capable of decomposing and dissolving them. Whether the chief importance in this regard pertains to the chlorides in the stomach, the alkaline carbonates in the intestines, or the albuminoid and fatty matters, is a question which physiological chemistry has yet to decide. To enter here upon a discussion of all the various and conflicting theories would be a profitless task. There are two substances, however, capable of acting as solvents of mercury and its compounds which merit particular attention. They are sodium chloride and albumen. The reactions with mercurials of these two substances—the soluble double salts of the one and the albuminates of the other—have, as is generally conceded, an importance which pertains to no other reagents which mercury would encounter in the body.

But before going further I should call attention to the views of those who believe that mercury forms neither chlorides nor albuminates in the organism, but exists and acts solely in its reguline form. They believe that the action of mercury is purely mechanical. This theory, which was enunciated by Boerhaave, and was adopted by Astruc, has recently found an active champion in our own countryman, Dr. Clevinger,* of Chicago.

Astruc † thought that the mercury was first divided up into fine globules by the action of the heart, and was then driven out with such force and momentum that the mercury globules were enabled to penetrate where blood-cells of the same size would be arrested. Where accumulations of "blood, lymph, recrementitial and excrementitial humors were too thick and viscid," they would be broken up and dissipated by the impetus and force of the mercury globules. In this way it was claimed the venereal virus was driven out of the economy. Clevinger's theory resembles this, inasmuch as he believes mercury acts in its metallic form, and solely by its weight. The minute globules (much more minute than Astruc supposed) penetrate the finest channels in the tissues, everywhere exerting a diobstruent effect where morbid accumulations are encountered. Salivation is accounted for "by accumulations of the metal in the terminals of the dental arteries, a condition favored," he says, "by the bony covering of these arteries and their relationship with the carotids. The minute globules would find easier ingress to than egress from the dependent portion of the lower jawbone, and accumulations in the cancellated tissue, gums, and salivary glands would account for ptyalism." The writer claims that after giving mercury to a frog, he saw the metallic globules circulating in the web of the foot.

Clevinger supposes, with Jaennel, that the mercurous salts would be converted by the alkaline fluids of the intestine into mercurous oxide, but believes that this would afterward be reduced by the glucose, with the aid of the intestinal heat, to metallic mercury. The globules released would vary little in size from those in blue mass. Likewise in the mercuric salts the yellow mercuric oxide would be precipitated in the alkaline fluids, and in the presence of deoxidizing agents, such as sugar, metallic mercury is formed. In this case the precipitated globules were much finer. When a solution of mercuric chloride, which had been spread over a glass slide, was placed beneath the microscope, and then precipitated with caustic potash, a yellow, amorphous powder appeared, and then, by adding a solution of glucose, and allowing it to remain for some time "at the temperature of the body or exposed to sunlight, the particles of oxide

* Read before the Materia Medica Society, September 22, 1881.

† The Index Bibliographique, in Hallopeau's work, Du Mercure, occupies twenty-two closely printed pages.

* Mechanical Therapeutics, Chemistry, and Toxicology of Mercury. The Chicago Medical Journal and Examiner, April, 1880, p. 337.

† De Morbis Venereis. Paris, 1738.

gradually formed black points, which under high powers were recognized as mercury globules."

Rabuteau also believed that the mercury compounds were all converted into the metallic form in the primæ viæ, though his explanation is not the same as Clevinger's.

It has also been maintained by some writers that mercury, when finely divided, is absorbed through the skin in its metallic state. Oesterlin, Overbeck, and Blomberg, after rubbing mercurial ointment into the skin of rabbits and other small animals, claimed to have found globules of mercury in the deep layers of the epidermis, the rete, the cutis, subcutaneous tissue, and even in the muscles. Later experiments of a like character by Rindfleisch, Fischer, Neumann, and Fürbringer, which were conducted much more carefully, did not confirm the above results. These observers found no globules deeper than the superficial layers of the epidermis excepting the two last named, who succeeded in tracing them into the follicles of the hairs and those of the sebaceous glands. It was their conclusion that the globules were unable to traverse the skin so long as it remained intact; that before absorption took place they were converted into a soluble compound.

The experiments of Fürbringer* were especially interesting and instructive, as bearing upon the solution of mercury prior to absorption. After rubbing mercurial ointment into the skin of a rabbit he found globules remaining, not only in the superficial layers of the epidermis but also in the hair-follicles and in the ducts of the sebaceous glands. Furthermore, it was observed that in the course of a week these globules had diminished in number. Thus far his results coincide with those of Neumann, who also found globules in the follicles, and noted a gradual diminution in them, till, at the end of four weeks, they had entirely disappeared. But Fürbringer made another very curious observation, which we cannot but regard as having a very important bearing upon the question with which we are concerned. Many of the globules, especially the smaller ones, had lost their metallic lustre as well as their smooth, rounded contour, showing, instead, a roughened or jagged outline. In pursuance of this line of investigation he then prepared an emulsion of mercury in mucilage and glycerine. The globules were exceedingly small—most of them being smaller than blood-cells. With this emulsion he injected the jugular or femoral veins of rabbits. After a short time blood was taken from the vessels of the neck, defibrinated, and the blood-cells were allowed to settle, leaving a clear serum above. This serum, which was ascertained to be perfectly free from metallic mercury by Schneider's electrolysis test, gave distinct evidence of mercury in solution. Globules of mercury were found in the coagulated fibrin as well as in the mass of blood-cells in abundance. Some of the globules were found entirely unaltered, others showed the same change observed in the cutaneous follicles: The bright, mirror-like centre had become dimmed or almost unrecognizable; in others, the lustre had disappeared entirely, the contour had become more angular, and finally, there were some of a deep black color, with irregular notched edges. These same forms, the writer claims, are observed in old mercurial ointment, where, as in the present case, a partial oxidation has taken place. In order to ascertain whether the presence of the soluble mercury was a consequence of the defibrination and the other processes to which the blood had been subjected, the mercurial emulsion was added to another specimen of blood outside the body. When tested then no mercury in solution could be discovered.

In the first of these experiments it might be surmised that the globules disappeared through evaporation, the minute vaporous particles penetrating the tissues unchanged, though too small to be visible with any magnifying power. Such a supposition is hardly tenable in the light of Fürbringer's second case, and, moreover, in the first case, we have evidence that something besides evaporation took place, namely, an oxidation; and if this could affect globules of appreciable size, why should it not all the more readily effect the minuter and invisible particles? Even if these minute particles should succeed in passing the skin they would scarcely escape solution in the parenchymatous fluids or in the blood.

That metallic mercury may traverse the tissues unchanged, when the globules are of considerable size, is shown in an experiment of Claude Bernard's.

This celebrated physiologist, having bored a hole in the femur of a dog, filled the medullar cavity with quicksilver and closed the opening with wax. The soft parts healed over it and no symptoms of absorption followed. At the end of three months the animal was killed, when only one-third of the mercury was found remaining; two-thirds had disappeared. On examining the internal organs the lungs were found studded with little white nodules, in the centres of which were found little globules of mercury, many of them visible to the naked eye. They were all encysted and enveloped in a pretty thick wall.

It is probable that the small globules made their way through the meshes of the connective tissue much as do other foreign bodies—needles and the like. That they were not completely oxidized and dissolved in the tissue fluids was probably due to their comparatively large size.

In this connection I refer to some further experiments by Fürbringer* concerning the effect of injecting metallic mercury beneath the skin.

These experiments were divided into three series: In the first, pure quicksilver in mass was injected hypodermically and afterward left undisturbed. It caused no pain, no salivation was produced, and no mercury appeared in the urine. In the second series mercury was injected as before, but was afterward rubbed so as to divide it in the tissues. Abscesses resulted, the pus of which contained mercury in solution. No traces, however, appeared in the urine. In the third series the mercury was rubbed up with mucilage and glycerine and the emulsion thus formed was injected. Now evidences of absorption appeared.

In these cases it is seen that when the mercury was in an undivided mass the tissue fluids had but little effect upon it, but the more it was divided and the greater the surface presented to the corroding effect of the saline fluids the greater was the evidence of absorption.

We may admit that the globules seen by Clevinger in the web of the frog's foot were really mercury globules, but of too great size to undergo immediate solution. Had they been very minute, they could not have been distinguished from drops of fat, as shown by Rindfleisch in his criticism of

* Virchow's Arch., lxxxii., 3, p. 491, 1880.

* Deutsches Arch. f. klin. Med., xxiv., 2, p. 129.

the experiments of Overbeck and Blomberg, where they claimed to have found metallic mercury in the deeper tissues.

There can be little doubt, then, that the fluids of the body are capable of dissolving minute globules of mercury, and that this solvent effect is greater in direct proportion to the fineness of the subdivision.

Now let us turn to the subject of the elimination of mercury. Here we find a series of interesting facts that are pertinent to our inquiry. Some authorities hold that mercury is eliminated through the skin only in cases of decided mercurialism. Most observers, at least, have failed to find it in the sweat. But the fact that under certain circumstances such elimination does take place, sometimes, too, in very appreciable quantities, is attested by too many writers to admit of doubt. It is a noticeable fact that in every instance the mercury appeared in its reguline form.

Dieterich* relates a number of curious cases of this sort. In two instances observed by himself, patients who had taken mercurials internally could whiten copper coins by rubbing them over the skin of the breast. He quotes the following extraordinary case. on the authority of a physician of Brunswick:

"A lady who had been mercurialized a year before, on returning from a ball found on her breast a number of black spots. When these were rubbed with the finger distinct globules of metallic mercury were formed. There were also globules in the folds of her chemise."

A very similar case is related by Salmeron and quoted by Hallopeau:†

"A patient had been treated by various mercurial preparations, which, without causing salivation, were followed by symptoms of slight mercurialism. Two months afterward he was surprised to see the skin, especially over the region of the chest, covered with little globules of mercury, easily recognizable by the naked eye. His linen (?) also bore distinct traces of them. A copper coin which was applied to the breast was amalgamed, and was shown at a meeting of physicians. The exhalation continued for three weeks."

These cases, which seem to be authentic, and many similar ones will be found scattered through the literature of mercury, would be claimed by the metallists, who believe that in the body all mercurials assume the metallic form, as supporting their position; especially since in some of these cases it is stated that the mercury had been exhibited in the form of a chemical combination—as calomel, corrosive sublimate, etc. The cases are susceptible of two explanations, both of which presuppose the intimate relation of mercury in the body to albumen. According to one, the eliminated mercury is derived from an albuminous emulsion, in which it preserves its reguline form, and whence it is liberated in the act of excretion. According to the other, the same act decomposes a chemical compound, an albuminate, and the unstable oxide of mercury, under the influence of some deoxidizing agent in the sweat or through exposure to the light, is readily reduced to its metallic form.

With regard to the salivary gland, it is a singular fact and contrary to what we should expect, considering their marked susceptibility to mercurial influence, that among the organs which eliminate mercury from the system they hold a very inferior rank. It is pretty clearly shown, however, that in ptyalism mercury is always present in the secretion. But the opinion prevails that mercurial stomatitis is not a consequence of the elimination of mercury through the saliva. It is regarded rather as a dynamic effect of the drug acting from within, an effect analogous to the production of an urticaria after the ingestion of certain kinds of food. It has also been ascribed to nervous influence, to an impression produced upon the sympathetic ganglia. It is regarded by others as a reflex effect of stomatitis. In support of this they allege that the salivary glands do not show signs of irritation as a rule, till after the gums have already been affected. This, however, is not an invariable rule. Ptyalism may be the very first sign of the mercurial influence. Hallopeau* mentions a case observed by Fournier, where salivation was produced repeatedly by mercurial inunctions without the gums showing the least trace of inflammation, and von Mering,† who experimented with small animals, states that he has several times seen salivation produced in cats in five minutes after a mercurial hypodermic injection. While the production of ptyalism is greatly influenced by predisposing causes, the most usual and most effective cause is the rapid introduction of mercury into the system in considerable quantities. The behavior of the salivary glands clearly implies an effort to eliminate an offending substance, a substance which appears to be capable of acting as a corrosive poison to the tissues, as evinced in ulceration and gangrene. It is well known that the teeth are liable to injury in all forms of mercurialism. They become discolored, are prone to decay, loosen, and may fall out. It is a noteworthy fact, however, and true as well of those who have to do with mercury professionally as of those who take it medicinally, that when particular attention is paid to cleanliness, and the teeth are frequently brushed, they often escape all injury. And not only is this so, but by the same means the liability to stomatitis may be checked. It is a matter of every day experience that patients undergoing mercurial treatment, who frequently cleanse the teeth, rarely show any oral effects whatever. These facts would seem to imply that the injury done in the mouth is due less to an irritation communicated from within than to a corroding cause acting from without. The oral secretion contains an ingredient which, if allowed to accumulate in the mouth, may act as a corrosive poison.

The so-called "mercurial teeth" which Hutchinson has so perfectly described, exhibit changes due mainly to loss of the enamel. He says:‡

"The defects produced by mercury concern chiefly the enamel, although they may, when severe, affect the dentine also. The enamel is usually deficient, and the surface of the tooth is in varying degrees rugged, pitted, and dirty. The incisors and canines are usually affected, and not unfrequently we see the enamel deficient on them all, below a line which crosses them at the same level. The appearance produced is much as if a line had been stretched horizontally across these teeth at about their middle." "The first molars" are "almost invariably affected" also.

These appearances point most distinctly to a cor-

* Die Mercurialkrankheit in allen ihren Formen, pp. 103–106, Leipzig, 1837.

† Hallopeau: Du Mercure Action physiologique et therapeutique, p. 62. Paris, 1878.

§* Loc. cit., p. 100.

†† Arch. f. exper. Path. u. Pharm., xiii., pp. 86–112, 1880–81.

‡ Illustrations of Clinical Surgery, p. 54. London, 1878.

rosive effect to which the teeth were subjected at an early age through the administration of mercury. The "line" of defective enamel mentioned, doubtless, in early childhood corresponded nearly to the line of the gums and to the part where the secretions and impurities of the mouth would be most apt to collect. The inference appears unavoidable that the effects of stomatitis are due to the elimination of a mercurial which becomes corrosive on its escape from its organic connections. Instead of an albuminoid compound, which almost assumes the character of the homogeneous elements of the body, a noxious inorganic chemical is set free to work its destructive effects. To account for the severity of these effects, it must be remembered that there is a continual irrigation of the parts with the nocent solution, not a single application. And furthermore, this solution would become more concentrated where the secretions are apt to collect, viz., at the borders of the teeth.

But it is not necessary to suppose that the mercurial set free is corrosive sublimate; other forms of mercury might easily be converted into the bichloride after their elimination, if allowed to remain sufficiently long in the mouth, and it is not improbable that sometimes this takes place. We recall the observation of John Hunter, that every mercurial, when held for some time in the mouth, became sapid, showing that a solution had taken place. Overbeck attributed the peculiar liability of calomel to produce salivation to the fact that of all preparations it was most likely to leave traces of the dose in the buccal cavity, where it would act topically by solution in the salivary fluids.

But while it is supposed that mercury may be absorbed under other forms than that of the bichloride into which it is converted, however, on its elimination, it is equally supposable that having been absorbed as bichloride, it may, under this form, be conveyed to the eliminating organ in sufficient quantity to excite a local inflammation the moment it is separated from its albuminous combination, which, till this moment, annuls its corrosive quality. Thus would be explained the cases of sudden ptyalism which occur independently of gingivitis.

After what has been said of the effects of mercury in the mouth, little need be said of the toxic manifestation elsewhere in the body. The changes which take place in the alimentary canal are not unlike in character those that the mouth presents. Catarrhal inflammation, hypersecretion, ulceration, and gangrene are their main features and owe their origin, doubtless, to the same general conditions which give rise to similar affections in the mouth.

Much valuable information has been afforded by researches concerning the elimination of mercury through the urine. With regard to the length of the period during which the elimination may continue, some new facts have recently been elicited by the Germans. It had been asserted that the elimination of mercury by the urine was entirely completed within the first ten days after treatment. Oberländer* made examinations daily, extending over long periods after treatment had ceased. He found a period of "active elimination" extending as long as eight days. Then followed periods of intermission alternating with periods of recurrence. The intervals of rest lasted sometimes as long as ten days. These alternations were followed in one case or three months. The investigations of Vajda and Paschkis indicated that the elimination extended to much later periods—in one case as late as thirteen years after treatment. From the statistics given, the presence of mercury in the urine appears to have been relatively as common at periods of several months, or even years after the treatment, as during the first eight days. These investigations then indicate that there is always an important residuum of the drug left in the body for an indefinite period after treatment. No definite relation between the length of this period and the quantity of mercury absorbed are inferable from the statistics presented. It is reasonable to suppose that in this relation both the quantity of mercury and the duration of the treatment are very important factors.

It was noted in these observations, also, that the periods of elimination were associated in most cases with a condition of increased denutrition—a condition in which there was evident increase in the disintegration of the albuminoid elements of the organism. This point had also been made before by Voit, Waller, Günz, and others. It must not, however, be inferred from this that mercury promotes tissue metamorphosis. Herman von Boeck, who examined the fæces and urine before, during, and after mercurial treatment, found no unusual waste of the nitrogenous compounds of the body. There is reason, on the contrary, for believing that such waste is retarded. When from any accidental cause such as a febrile disturbance, a local inflammation, or the operation of such remedies as stimulate the processes of disassimilation, a disintegration of the albuminoid substances takes place, mercury is liberated, and thereby enabled to escape from the economy.

Thus far our inquiry has been chiefly concerned with the changes which mercury undergoes in its relation to the body. We have sought its reactions at either extremity of its course, tracing it as far in the economy as our limited means of observation permit, both at the points of its entrance and of its emergence. Its behavior has indicated that once arrived in the bodily fluids, its condition is generally that of a soluble albuminous salt. At the same time we have seen that globules of considerable size can resist the solvent action of these fluids; that they may long remain sequestered in the tissues, which come to tolerate their presence with indifference, as in the case of other foreign bodies. Such globules may gain access to the tissues through solutions of continuity in the mucous or cutaneous surfaces, or they may be the result of a separation of the mercury from its albuminoid combination through processes of disassimilation within the body. We have seen that such a reduction may take place at the surface in the cases of mercurial transpiration through the skin; it is not impossible that a similar change should occur in the tissues. Thus, we have a reasonable explanation of some of the cases reported by the older writers where metallic mercury was found in the tissues, especially the bones, after death. In many of the cases, however, in which reguline mercury has been found in the bones, the effect of maceration or the chemical changes incident to decomposition must be taken into account. The reduction of the metal may sometimes have been the result of these processes.

We have found reason to believe that the absorption of mercury does not always take place under identical conditions. Complex forms may be produced, double chloride salts and compound albuminates. The only essential conditions to absorption

* Versuche ü. d. Quecksilberberauscheidungen durch den Harn nach Quecksilberkuren: Vierteljahrschr. f. Syph. u. Derm., 1880, 4.

are solubility and the neutralization of corrosive and irritating qualities. But is there any reason to suppose that these complex salts are insusceptible of any future change while they remain in the organism? The albuminoids are undergoing incessant metamorphosis, are constantly being disintegrated, are constantly being regenerated; old albuminates would be destroyed and new ones formed. Would it be possible, throughout these complex changes, for calomel to remain as calomel, the bichloride as bichloride, the protiodide as protiodide? How long each mercurial would preserve its identity we have no means of knowing. Any peculiarities in the action of different mercurials are easily accounted for by the varying conditions of their absorption. But there is a manifest tendency, when mercurials have been long enough in the system, to form simpler combinations. The union with the albumen or albuminoids is such that when the mercurial is severed from its albuminous connection it returns almost directly to its reguline form. In the toxic effects which are associated with elimination, we have seen that not only may a corrosive salt have been disengaged from the albumen, but that the mercurial eliminated may have become corrosive through reactions taking place *in situ*.

I consider, then, that the ultimate state of mercury in the organism—that is, in its active, its pharmaco-dynamic form—is one of intimate and direct union with the albumen. Here it is not a question of globules in emulsion, but rather of atoms in chemical union. So soon as anything which could be called globules is present, we have simply an extraneous, inert body. I can conceive that mercury becomes as much a part of the albumen as is its component nitrogen: what was a nitrogenous body becomes also a mercurialized body.

We now turn to the therapeutic action of mercury in syphilis. At the outset I assume that the curative power of this action, whatever the latter may be, will be admitted without argument. The vagaries of such extreme antimercurialists as Hermann, of Vienna, who asserts that syphilis, in its chronic form, is only hydrargyrism, need not here be discussed. But granting the controlling influence that mercury exerts over syphilis, how is this influence explained, in what manner is it most available, and has it no countervailing disadvantages?

Though the action of mercury in syphilis has long been a field for speculation, we labor still in a *terra incognita*. Among the many theories proposed, one has already been alluded to, namely, the mechanical theory. The objections to it are implied in what has already been said.

Another hypothesis of the action of mercury in syphilis stands as a corollary to the germinal theory of the disease. In view of the well-known destructive effect of mercury upon low forms of life, it was supposed that in syphilis the action of the drug was more effectively exerted upon the germs of the disease than upon the more highly organized bodily tissues. The disease-germs succumbed while the higher vitality of the body resisted. Such a theory is expounded by Beale. Hallopeau * cites an experiment with vaccine virus performed by Chauveau, in which it was shown that when the virus was mixed with a one per cent. solution of mercuric chloride its virtues were lost and its inoculation was without effect. In referring to this experiment Hallopeau makes the suggestion that mercury may act in a similar manner in the body in destroying "the specific properties acquired by the tissue elements in virulent and infectious diseases." Were it possible to charge the body to the extent of one per cent. of its weight with corrosive sublimate, this might be true; or were it shown that mercurialized subjects could not be inoculated with vaccinia, the argument would have been more cogent. Workers in quicksilver are not exempt from parasitic diseases (Kussmaul), nor does mercury, however thoroughly administered, prevent syphilitic relapses. Were this theory correct, the principal effect of mercury in syphilis would be to prevent manifestations of the disease from occurring, while on the contrary its greatest influence is evinced on the manifestations after they have occurred.

It was the opinion of John Hunter that mercury induced a condition in the economy which was *incompatible* with the disease processes of syphilis. A diversion was created under the influence of mercury which preoccupied the system and held the syphilitic action in abeyance. In other words, mercury was an antidote to syphilis, controlling it through its own pathogenetic effects. Hahnemann sought from this theory to derive aid and comfort for his doctrine of homœopathy, but instead mercury and syphilis became a stumbling-block to his disciples. The latter now admit that the homœopathicity is not perfect, that it is often necessary to resort to "the physiological and destructive influence" of the drug to effect any change in the disease (Hughes).

Though the antidotal theory derived from Hunter has been very generally adopted, it is not a theory that explains much, nor one which is based upon any very definite facts. There is little in the physiological effects of mercury which would suggest its selection as a specific for syphilis more than for tuberculosis or cancer. But the fact that in practice it has rendered good service as a "working theory," doubtless implies some approximation to the truth. It is chiefly believers in the antidotal influence of mercury that advocate prolonged mercurial treatment. To what extent the treatment should be prolonged the hypothesis of Hunter affords no response.

There is still no inconsiderable number of physicians who, though far from being antimercurialists, refuse to admit that the prolonged use of mercury, even in small doses, is a matter of indifference to the patient's health—that it is not introducing to the economy another enemy to fight the one already there. There are still many adherents of Virchow's so-called "Dispositionslehre," the belief that "a decided course of mercury tends to engender a certain irritability in the body, a disposition to inflammation and so indirectly to the development of specific growths." Others believe with Fournier that the only safeguard against the dangers of syphilis lies in the almost uninterrupted administration of mercury for from two to four years. How are we to reconcile such diverse opinions?

The proposition that mercury can predispose the system of a syphilitic subject to the development of the later lesions of syphilis, is one not easily established. The statistics of Boeck and Julien, bearing upon this point, do not bring us to any satisfactory conclusion. We are more impressed by the general fact that cautious and experienced observers do evince a certain suspicion of mercury in long-continued doses and reserve its use for the more serious cases, continuing it only so long as the symptoms demand. To be sure these are simply

* Loc. cit., p. 156.

impressions; but what more have we to assure us that the perils of syphilis demand a treatment continued in every case uninterruptedly for years? Where have we any satisfactory proof that cases so treated do better than the average? It is simply a question of impressions, a question which is competent to any individual judgment to decide.

It is claimed that a vindication of the method of prolonged treatment has been found in some recent experiments, showing that not only may mercury in small doses be administered for protracted periods without detriment to the health, but with decided benefit. The much-maligned drug has been elevated to the rank of a tonic. The title is not a new one, however. Among the older writers it was so classed not infrequently. Murray, in his materia medica published nearly sixty years ago, classes mercury, together with iodine, arsenic, copper, etc., under the head of mineral tonics. But the term was then used in a somewhat different sense. It was supposed that by virtue of a stimulating influence, which was diffused throughout the economy, the drug excited all the vital functions to greater activity, increased the various secretions and excretions, and so enabled the system to cope more successfully with disease or to expel morbid intruders. It was not a tonic in the sense of a reconstituent, an analeptic; though it incited the vital forces to battle, it furnished no sinews of war. But now, on the other hand, mercury is presented as a tonic which actually increases nutrition, restores wasted tissue, and produces plethora. Trousseau tells us that we have but one such tonic in the materia medica, and that is iron. The circumstances which gave birth to the modern theory of the tonic action of mercury are as follows:

In 1869, Liégeois,* having been struck with the improved appearance which syphilitic patients presented that had been treated by hypodermic injections of corrosive sublimate, instituted some experiments to ascertain whether this improvement was owing solely to the effect produced upon the disease. Several non-syphilitic patients were subjected to the same treatment, and the result showed an average increase in weight of 3,662 grammes. Experiments made upon rabbits showed similar results. Of two rabbits, one, which was given sublimate injections, gained in about two months 150 grammes; while the other, not so treated, had in the same time neither gained nor lost. Another rabbit, that was pregnant, improved under the treatment, bore its young normally, and suckled them. One of these young, to which the sublimate injections were given, increased in weight more rapidly than did the others not so treated. Wilbouchewitch,† of Moscow, varied these experiments by observing the effect of mercurial treatment, in syphilitic patients, upon the number of the blood-corpuscles. His results differed from those of Liégeois, inasmuch as he found that while the first effect of mercury was to increase the blood-globules, this increase was followed by a later decrease. This difference in their results is accounted for by Keyes from the fact that Wilbouchewitch used rather large doses, which might have had a "toxic effect." Liégeois had maintained that it was only in very small doses that mercury acted as a reconstituent agent, while the larger ones caused denutrition. Keyes* used somewhat smaller doses than Wilbouchewitch, and found that the globules continued to show an augmentation above the average number in health for as long a time as the treatment was continued—in one case for eighteen months. Eight syphilitic patients, that had been taking the protiodides of mercury for different periods, showed an average gain of nearly five million globules over what was estimated as the average for a given space (1 c.c.) in a healthy man. In two instances the effect of mercury was tested on healthy subjects—in one case for four months, and in the other for four weeks. In both cases there was a marked increase, corresponding to the effect observed in the syphilitic patients.

The effect upon lower animals of small doses of mercury continued for long periods has recently been investigated very thoroughly by Schlesinger.†

Animals of equal size and weight were taken, and kept under observation sufficiently long to ascertain that they were fit subjects for comparison. The blood-globules were counted with the hæmatometer, after the method of Hayem and Nachet (the same employed by Keyes in his experiments), every day, and at different periods of the day. Quantitative tests were made also for hæmoglobin, and the urine was carefully examined each day for urea. When two animals had been found which yielded like results the experiment with mercury was begun. To one of these two animals a small quantity of a solution of corrosive sublimate with chloride of sodium in distilled water was administered in the food daily for several months. Rabbits and dogs so treated showed, by comparison with others fed in the same way, but without mercury, a general improvement, increase in weight, in the number of blood-globules, and in the amount of hæmoglobin. Sheep, goats, and hens did not improve. The best results were obtained with dogs. A bitch which had taken the sublimate solution for four months was killed and examined. No very marked changes were found, excepting abundant deposits of interstitial fat. The kidneys showed a large amount of fat in the straight tubes, in which it appeared in large drops. The glomeruli as well as the interstitial cellular tissue were intact. The muscular fibres of the heart were unaffected, but there was abundant fat in the interstitial connective tissue. In the liver there was scarcely a trace of granular fat, but "much yellow pigment." The cells were noticeably "homogeneous," and had a peculiar lustre, as in amyloid degeneration. Another dog was then treated in the same way continuously for a year. During this time its weight increased ten kilogrammes, and the blood-globules from 9,000,000 to 12,000,000 to the cubic centimetre. There was no alteration in the amount of uric acid, and the urine never contained either albumen or sugar. At the end of the year, the dog, having meantime been confined in a large open cage, was let loose and allowed to run about, the sublimate being continued as before. The effect was to make the animal ill. It appeared indisposed, and a diarrhœa set in which lasted for fourteen days. The weight fell, and the number of the blood-corpuscles underwent a marked diminution. The animal recovered, how-

* Des Résultats Cliniques et Scientifiques obtenus avec les Injections Sous-cutanées de Sublimé, à Petites Doses, dans l'Étude de la Syphilis. Gaz. des Hôp., No. 88, p. 347; No. 89, p. 350. 1869.

† De l'Influence des Préparations Mercurielles sur la Richesse du Sang en Globules Rouges et en Globules Blancs. Arch. de Phys., p. 508. 1874.

* The Effect of Small Doses of Mercury in Modifying the Number of the Red Blood-Corpuscles in Syphilis, etc.: The Amer. Jour. of Med. Sci., Jan., 1876.

† Experimentelle Untersuchungen über die Wirkung, lange Zeit fortgesetzter kleiner Dosen Quicksilbers auf Thiere: Arch. f. exper. Path. u. Pharm., xiii., 5.

ever, without stopping the medicine. It was then killed and examined. The changes found resembled those in the case above, but in a much higher degree. The deposits of fat were mainly interstitial. The muscular fibres of the heart remained unaffected, and there was nothing abnormal upon the valves; but the commencement of the aorta, for the extent of two centimetres, had undergone atheromatous degeneration. The liver-cells contained numerous fat granules, though retaining their normal shape and size. The straight uriniferous tubes were in a high degree of fatty degeneration, though the glomeruli and all the renal vessels remained intact.

To what conclusions do these experiments lead us? Is the point established that mercury is a reconstituent tonic? That effects are produced under its influence which were not suspected before, we must admit. The fact cannot be gainsaid that mercury in small doses is capable of increasing the bodily weight and the number of the red blood-globules. But does that make it a tonic? Has it been established that it promotes the processes of assimilation; that it imparts organic vigor and vital force? Are we sure, even, that the increased number of blood-cells is the result of improved hæmatosis, or that the added weight is evidence of better health? The products that entitle iron to its reputation as a tonic—the heightened vigor, the elevated animal temperature, the augumented excretion of urea, are wanting. There is increased or accumulated material, but is there any corresponding increase of energy? The larger number of blood-cells implies that fewer are destroyed than in the normal condition. The accumulated fat betrays a sluggish metamorphosis, a lessened oxidation; the vital movement is retarded. The pathological changes which a year presents may be insignificant, but they are greater than after four months. Would they not be greater still after two, three, four years?

Weighing all the foregoing reflections together, do we not gain some intimation of the action of mercury in syphilis? The chief characteristic of syphilis is a tendency to hyperplastic cell-growth. In every lesion of the disease, properly so called, this is the cardinal factor. The effect of mercury is to check this hyperplasia. It does this by imparting to the cells some quality which restrains their morbid activity, and predisposes them to retrograde metamorphosis. It does not act by increasing waste, by denutrition, but by retarding growth; nor does it aid repair. The mercurialized cell performs its vital movements with lessened alacrity; its tendency to respond to the irritating principle of the disease is diminished. Thus, we see, that mercury given before the secondary manifestations appear delays their appearance and often moderates their intensity. Kussmaul states that he has never known an instance of a worker in quicksilver *acquiring* syphilis, either primary or secondary, so long as he was actually suffering from mercurialism. But, to obtain this inhibitory action of mercury, the organism must be well charged. To this end, it is not large doses that are required, but absorbable ones. The drug must be given in the form in which the largest proportion of mercury will be appropriated by and assimilated with the albuminoid elements of the body. All else is simply waste. Nor is it necessary to induce toxic effects. Salivation may show that the blood is surcharged, but not that the organism is saturated. When each cell and fibre has received its quota of mercury, when all the tissues have been mercurialized, the body is in a state to resist the syphilitic action. But since elimination is going on constantly, in order to maintain this state of resistance the treatment must be more or less prolonged. For the remedy does not reach the cause—the active principle of syphilis—it tends only to annul its effects. But there comes a time when tissues so abnormally constituted no longer return to a condition of health. The prolonged disturbance of the normal vital movements is followed by a permanent derangement of nutrition—a true cachexia. Compared with the perils of a grave or malignant form of syphilis, the dangers that attend the prolonged use of mercury may be insignificant. There are many cases of syphilis, however, where we cannot afford to entirely ignore these lesser dangers of the cure, which may, possibly, become worse than those of the disease.

123 West Thirty-fourth Street, N. Y.

## THE CHINESE OPIUM-PIPE AS A THERAPEUTIC AGENT:

### With a Brief Study of the Manner of Using it, and the Results of the Habit when Once Formed.

By H. H. KANE, M.D.,

New York City.

About two years ago, Reginald Thompson, of London, Eng., kindly sent me a paper of his on "Opium Inhalation in the Treatment of Various Pulmonary Diseases and Insomnias," * by means of a cigarette made of bibulous-paper, nitre, tobacco, and opium,† he obtained some excellent results from an amount of opium hitherto considered wholly inoperative.

He commenced with cigarettes containing $\frac{1}{8}$ gr. of opium, but had to reduce the amount to $\frac{1}{64}$ of a grain, as the former produced dizziness in three healthy men. He obtained hypnotic, topical, and general sedative and anodyne effects from those containing $\frac{1}{64}$ gr., and as but about one-half the smoke in ordinary smoking enters the lungs, he calculates that the patient really received but about $\frac{1}{128}$ gr.

Just after receiving his paper, I made up a number of these cigarettes and proceeded to repeat his experiments. The results obtained were not fully satisfactory, owing to the fact that the smell of the burning paper was so rank, despite the tobacco and nitre added, that the patients complained of throat-irritation, and were often compelled to cough. Hence, full and deep inspiration was impossible. Furthermore, the tobacco and nitre, although present in but small amounts, rendered the results of the experiments less certain, for if $\frac{1}{128}$ gr. of opium, when deeply inhaled, was found to exercise so rapid and powerful an effect, it might with perfect justice be conceded that nitre, a drug long used in spasmodic pulmonary affections, would, when its fumes were deeply inhaled, also produce an effect of some kind.

In certain instances, such as the irritative cough

* Practitioner, 1877.

† These cigarettes are directed to be made as follows: Swedish filtering-paper is cut into pieces 4 x 2½ inches, and floated through a solution of a fixed strength, so that each cigarette-paper contains:

| | |
|---|---|
| Potass nitratis | gr. ¼ |
| Tr. tabac. | ♏ x. |
| Ol. anisi | ♏ ½. |

After being thoroughly dried, these are medicated with tr. opii of the required strength. The tincture of tobacco is of the strength of 2½ oz. of the leaves to 1 pint of spirit. When finished, the papers are rolled into cigarette-shape on a tapering stick and the free edge caught with a little mucilage. They are then ready for use.

and insomnia of phthisis, and in spasmodic asthma, using larger amounts, however, than Thompson found necessary, the results obtained were truly astonishing *when the patient was able to inhale the smoke of the cigarette fully and freely.*

After making quite a number of experiments, I let the matter rest until a few months ago, when the advent, almost simultaneously, of two American opium-smokers at the De Quincey Home for treatment, led me to study the matter of opium-smoking *in extenso*, and I then saw that if the inhalation of opium was to be of value as a therapeutic measure, the real Chinese pipe was the only instrument by means of which it could be satisfactorily done.

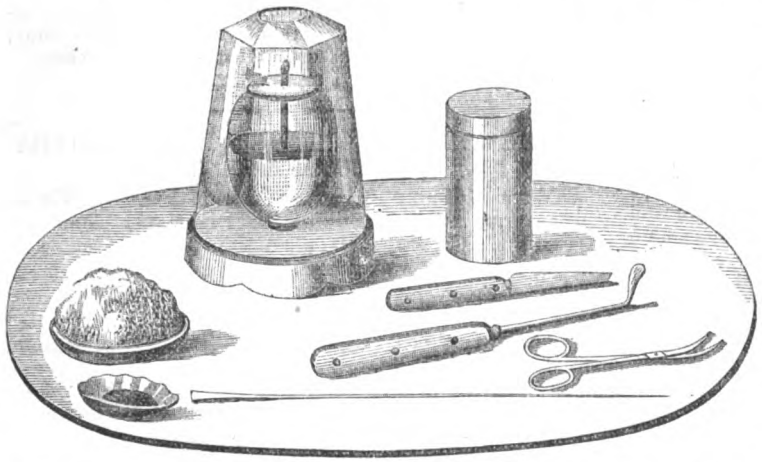

FIG. 1.—Smoker's Outfit: lamp, sponge, shell with opium, bowl-cleaners, scissors, needle, horn box for opium, and tray.

Accordingly, I procured a full outfit for smoking, which consists of the following: A pipe, a small glass lamp, a pair of scissors (*cow ten*), a long steel needle (*yen hauck*), a saucer and sponge, a box for the ashes, two bowl-cleaners, and a buffalo-horn box (*hop toy*) for holding the opium.

The opium-pipe, the origin and antiquity of which is unknown, though supposed to have first come from Arabia, consists of two parts, a stem and a bowl. The stem is usually of bamboo, one joint and a quarter, or twenty-four inches in length, and four inches in circumference. When new it is of a straw-color, but with long smoking becomes black and glossy. The stem may be of ivory, orange- or briar-wood, or sugar-cane, and is occasionally made of lemon-rind, cut, dried, and polished. The lemon-stem gives a peculiarly pleasant taste and odor to the smoke.

At about the junction of the middle and lower third, or just back of the joint, a place is hollowed out of the side of the stem and communicates with its longitudinal perforation. About this hollow there fits closely a shield of metal, usually brass, that rises in a rim about the hole. Into this is fitted the bowl. On either end of the stem is fitted a button of ivory. These stems may be plain, or ornamented with silver and gold, and variously carved. The bowl may be bell-shaped, ovate, or hexagonal. It is usually of a hard, red clay, and hollow. On its under-surface is a neck or flange by which it is fitted into the stem. To make it fit tightly, this is wrapped with strips of soft linen.

The upper surface of the bowl is either flat or sloping downward and outward. In its centre is an opening, about sufficient to admit an ordinary darning-needle. The whole pipe is called the *yen tsieng* or opium-pistol.

This is the *only* pipe in which opium is smoked, although some writers state the contrary.

The opium used for smoking is prepared in China. It is an aqueous extract, which represents fifty-four per cent. of the crude or India opium from which it is made. This crude opium contains but three per cent. of morphia as against twelve per cent. in the Smyrna opium used in this country. A special duty of $6 per pound is levied on it when coming to us.

Despite a standstill in Chinese immigration (or an actual falling off as claimed by some),* the amount of smoking-opium *used* in this country is greatly on the increase. There was an excess of seventeen thousand pounds last year over that received the year before, and as this trade is entirely in the hands of Chinese merchants, who do not form "corners" on opium, the figures show an increased demand.

This is partly explained by the fact that the vice of opium-smoking is rapidly on the increase among American men and women, there being at a low estimate at least five thousand white persons to-day indulging habitually in this practice. I am personally acquainted with nearly a hundred in this city alone. A fair daily average for each white habitu is 100 grains (16 *fun*). This, multiplied by the days in the year (365) and the number of smokers (5,000), gives us as yearly consumed by Americans, 23,762 pounds. The amount reaching us last year was 77,196 pounds, valued at $773,796.

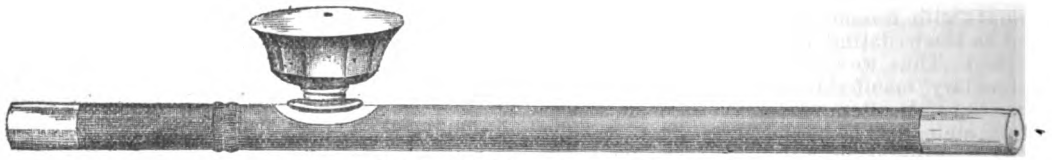

FIG. 2.—The Chinese Opium-Pipe.

The person who smokes opium *always* does so reclining, usually stretched across a hard wooden bunk covered with matting, a small stool or bevelled board serving as a pillow. Resting upon his left side, the

* Seward: Chinese Immigration in its Social and Economical Aspects. New York, 1881.

smoker takes up a little of the treacle-like mass upon the steel needle (or *yen hauck*) and holding it above the flame of the lamp watches it bubble and swell to six or seven times its original size. In doing so it loses its inky hue, and becomes of a bright golden brown color, and gives off a pleasant creamy odor, much admired by old smokers. Poor opium does not yield so pleasant an odor, is liable to drop from the needle into the flame of the lamp, and rarely gives so handsome a color, the yellow being here and there streaked with black. This process is known as "cooking" the opium. Having brought it to a proper consistence, the operator, with a rapid twirling motion of the fingers holding the long needle, rolls the mass upon the smooth surface of the bowl, submitting it occasionally to the flame, and

FIG. 3.

now and then catching it upon the edge or surface of the bowl and pulling it out into strings in order to cook it through more thoroughly. This is called *chying* the mass.

Rolling it again upon the surface of the bowl until the opium is formed into a small pea-sized mass, with the needle as a centre, the needle is thrust into the small hole in the centre of the bowl, thus leveling off the bottom of the pea.* Then, grasping the stem of the pipe, near the bowl, in the left hand, the bowl is held across the flame of the lamp to warm it; the bottom of the opium-mass is also warmed and by again thrusting the needle into the small aperture in the centre of the bowl and quickly withdrawing it, the mass with a hole in its centre communicating with the hole in the bowl, is firmly fastened upon its *surface*.

Inclining the body slightly forward, the smoker tips the pipe-bowl across the lamp, until the opium is just above the flame, when it commences to sizz and bubble. With the lips firmly pressed *against* the ivory mouth-button, the devotee inhales strongly and steadily, the smoke of the burning drug passing into his lungs. This smoke, which is returned through the mouth and nose, is heavy and white, and has a not unpleasant, fruity odor. Having finished this bolus, which requires but one long or a few short inspirations, the smoker cools the bowl of the pipe with a damp sponge, and repeats the operations of cooking, rolling, and smoking as often as is necessary to obtain the desired effect. Smokers are classed as "long-draw" and "short-draw" men, according as they consume the mass in one long or a few short inspirations. The "long-draw" is unquestionably the most injurious.

I know of no subject upon which such erroneous ideas are held, both by medical men and laymen, as that of the effects of smoking opium. It is the commonly received belief that after an habitué has smoked from one to four "pipes," he falls backward in a heavy, death-like sleep or stupor that is filled by the most vivid, extravagant, and pleasing dreams. *This is not so.* Having smoked repeatedly myself; had my nurses smoking; having had from two to six habitués at my house daily for six weeks; having watched them for hours at the smoking-houses, or "joints;" having conversed with them and with Chinese smokers; I can positively assert that such a thing never occurs, unless the drug is smoked to a poisonous excess, in which case there are no dreams at all. Upon the novice, when not smoked to excess, the effect is to produce a pleasant sense of perfect rest, followed by slight nausea, occasionally vomiting, profuse perspiration, intense itching, and that by sleep. Smoking a little more produces a decided intensification of these symptoms; more especially of the nausea and vomiting. With the habitué, or in the case of the novice who has smoked to decided excess, there is produced wakefulness, an insomnia that is sometimes distressing, being accompanied by hallucinations, delusions, and a desire to jump from a window or any high place. This happened to one of my nurses, a strong, healthy man, not given to any foolishness.

The habitué, after smoking his allowance, which varies from seventy-five grains to two ounces, feels a pleasant sense of exhilaration that merges into a condition of dreamy wakefulness. It is a state in which the devotee finds himself perfectly happy and contented. The squalid surroundings of the opium-den, the harassing cares and trials of life, are banished, and an indescribable sense of complete satisfaction takes possession of him. This waking dream, this silken garment of the imagination, will take its shape and its coloring from the most cherished and brilliant strands that run through the web and woof of his life's story. It hides the unpleasant conditions of every-day life, and gives birth to a pleasant bubble, the brilliant play of colors and misty outline of which are born of the pipe alone. As the smoker's hopes, ambitions, aspirations are, so will be the figures and incidents of his opium *dolce far niente*.

After a time, the habitué finds that the pleasant things that always came at the pipe's bidding now fail to appear, and, disgusted with the pleasureless practice, he tosses aside the pipe in disgust, only to find that at a certain hour the following day he must smoke again; not drawn to it by any fascination, but driven to it by the horrible sufferings that follow close upon the heels of any attempt to abandon it.

The effects of a single smoking upon a novice, in

* Known by some as the chandoo (*tschandu*).

moderation and to excess, may be summarized as follows:

NOVICE.

| IN MODERATION. | IN EXCESS. |
|---|---|
| Rise in frequency and tension of pulse, followed by a fall in tension and in frequency after a short period, in which both remain stationary. | Same, followed by a very decided fall in frequency, with hyperdicrotism and tremulousness. |
| Slight rise, followed by a slight fall in temperature. | Decided fall in temperature following a slight rise. |
| Tactile sensibility at first somewhat decreased, afterward increased. | Same, decided followed by a marked increase. |
| Intense itching of nose, back, scrotum, and legs. | Same. |
| Slight dizziness and nausea, with perspiration. | Great dizziness, nausea, and vomiting, with profuse perspiration. Loathing of food. Cramp-like pains in the bowels. |
| Frequent interruptions in stream of urine, with considerable waiting before stream can be passed at all. | Inability to pass urine. |
| Marked increase in sexual appetite, with erections. | Same. |
| Heaviness of the eyelids, with desire to sleep. | Sleeplessness, sometimes accompanied by hallucinations and delusions. |
| Pupils contracted. | Pupils size of pin-point. |
| Dryness of the mouth and throat. | |
| Feeling of exhilaration, with desire to straighten body and walk fast. | Feeling of quiet comfort, no desire to walk, one half of body sometimes numb, feels as if paralyzed. |
| NEXT DAY. | NEXT DAY. |
| No peculiarity. | Languid, tired, headache, constipation, stomach a little qualmish. |

This habit is like the habitual use of the drug in any other manner (mouth, rectum, or hypodermically) in the following points:

*First.*—It requires a gradual rise in the amount used to get the desired effect.

*Second.*—Pleasurable sensations do not last long.

*Third.*—The mental, moral, and physical effects differ from the other habits only in degree.*

Upon the habitual smoker we find the following effects, resulting from a prolonged use of the drug:

Loss of both desire and power for continued mental effort, tendency to lie without any good reason for so doing, vacillation, deterioration of honesty and morality, decided falling off of affection for family and friends, loss of ambition, as also of all interest in business pursuits. The temper, at first made more pleasant, soon becomes very irritable, and the individual very impatient. He indifferently watches the approach of poverty that will soon overtake those who have been so dear to him. His every hope and desire is centred in the pipe, and nothing can draw his attention from it. His eyelids are bloated and darkly underlined; his eyes now bright and glistening, and again dull and apathetic. Conjunctivitis is not uncommon. The pupils are narrowly contracted, save when the effect of the drug is wearing off and he feels the need of opium, when they become widely dilated and water profusely.

Palpitation of the heart and dyspnœa follow any marked exertion. The appetite is decidedly impaired, the mouth dry, the tongue sore, and the bowels obstinately constipated. The stools are clay-colored and coated with mucus, occasionally with blood. There is a decided loss of bodily weight. Diarrhœa sometimes follows the constipation, and is usually very severe, being attended with pain and tenesmus. Flatus forms in the bowels.

* For a full study of the effects of the habitual use of the opium-pipe on pulse, respiration, digestion, sexual apparatus, mind, bowels, etc., see Our American Opium-Smokers, by the author (now in press). G. P. Putnam's Sons.

The face may be pale and bloated, or flushed and greasy. The features strike one as having lost their former individuality. Twitching of isolated muscles is not uncommon.

The sexual appetite and power in man and sexual desire in women, at first markedly exalted, so as to justify the terms satyriasis and nymphomania, are finally almost or wholly destroyed. Cessation of the menses occurs sometimes, but not as often as with morphia-takers. Young girls and virtuous married women have often been led to smoke, and have then been ruined by men who understood these facts. Indeed, this was the chief reason for the legislation against the practice that was found necessary in California and Nevada.

In man the effect upon the urinary organs is to cause partial atony of the muscular coat, with spasm of the deep urethral muscles as the stream begins to flow. It takes several minutes to start the stream. In women no such result follows.

Upon the nervous system the effect of the practice is to produce decided irritability. Tactile sensibility is at first blunted and then increased. Staggering in walking results more from a "dazed" condition of the mind than from any effect upon the muscular system.

Upon the whole, however, it may be safely said—I having taken the worst cases as examples here—that this is the least injurious of all ways of using opium habitually. Many who have smoked for years are, beyond slight interference with function, apparently, in as fine physical condition as they were before they commenced the practice. The cure of these cases is rapid and almost painless, provided a full treatment is carefully carried out. I have cured four hard smokers in the past two months, without any difficulty whatever. One of them had been at it eight or ten years, and was looked upon as the hardest smoker (American) in this country.

The points of difference between the habits may be roughly summarized as follows:

The smoking habit differs from morphia-taking in the following points:

*First.*—There is seldom albuminuria.

*Second.*—Digestive disturbances are not so common.

*Third.*—Menstruation is less often interfered with, and the procreative power is not so markedly affected.

*Fourth.*—Insanity is not so frequent an occurrence, and disturbances of the nervous system are not so well marked.

*Fifth.*—Trophic cutaneous changes are rare.

*Sixth.*—Quasi-malarial fever is of very rare occurrence.

*Seventh.*—The symptoms of abstinence, with or without medical aid, are not nearly so severe.

*Eighth.*—After cure, recuperation is much more rapid, and after-symptoms are not common.

Financially and morally the ruin and degradation are more complete than in any other way of using the drug. An ordinary hard smoker will consume from $1.00 to $2.00 worth of the drug each day, and will spend hours over the pipe to the exclusion of everything in the way of business.

Its advantages as a therapeutic agent are as follows:

*First.*—It takes longer to form the habit.

*Second.*—It works less harm when once formed.

*Third.*—It is easier to break.

*Fourth.*—A local as well as a general effect may be obtained.

As Reginald Thompson pointed out in his excellent article, already referred to, the inhalation of opium offers special facilities for the introduction of this drug into the system. He finds that the human being, with but a single thin membrane lying between the air in the cells on the one side, and the blood in the vessels on the other, afford special advantages for absorption; and he thinks that this absorption stands next in point of rapidity to the injection of the drug directly into a vein. Such a procedure being extremely dangerous, he believes that the inhalation-method affords all the advantages and none of the dangers of intravenous injection.

As any one can at once see, such a method would be especially suited to that class of pulmonary affections where a topical as well as a general action was desired. In numerous experiments, I have found it of the greatest benefit in the insomnia of phthisis due to a frequent, irritative cough; in spasmodic asthma; and the asthmatic symptoms of emphysema and chronic pneumonia. Not only does it check the cough, but it permits of sleep in the recumbent posture, a thing that, before its use, had, in some cases, been impossible for months.

Over the other methods of using the drug it has the advantage of requiring long smoking to form a habit, and the least physical harm when the habit is formed. In many cases of phthisis it would make but little difference whether a habit was formed or not, as the patient is certain to die, and nothing so thoroughly smooths the path to the grave as opium. In other cases, its occasional use, especially if the patient did not know what he was smoking, would not produce any morbid craving for the drug.

As it takes a pea-sized mass weighing from two to six grains to affect myself or my patients *in the least*, I cannot understand how Thompson could get such decided results from the one-eighth grain. It must be borne in mind, however, in this connection, that the Indian opium, from which smoking opium is made, contains but three per cent. of morphia, as against from twelve to seventeen per cent. in the Turkey opium which we use in medicine.

The trial of the opium-pipe in the wards of one of our large hospitals would probably give some very decided results; not only in pulmonary, but in cardiac and other affections.

In catarrhal inflammation opium-smoking would be especially indicated, as it is a well-known fact amongst smokers that gleet, gonorrhœa, leucorrhœa, and nasal catarrh rapidly disappear in the smoker. Furthermore, this is about the only way of using opium alone that creates (to the novice) nausea, profuse perspiration, and decided relaxation; an effect that is reached but imperfectly by Dover's powder.

I know of one case of malarial neurosis of the heart that has been seen by Professors Loomis, Clark, and Janeway of this city, and Walsh of London, where the daily smoking of a few pipefuls of opium was the only way of using it that would control the palpitation and pain. Morphine and opium by the mouth or rectum produced constipation, loss of appetite, gloom, and despondency, all of which disappeared after he abandoned them for the pipe.

There is one point about the victims of the opium-pipe that is worthy of notice, viz.: Heretofore they have not had the excuse of excruciating pain to drive them to it, as is the case more especially with the hypodermic method, but have deliberately and wilfully placed themselves in a bondage with the disastrous effects of which they were, in the majority of instances, acquainted.

There are those who will perhaps look upon the course I am taking in this matter as opposed to that which I have written before, and censure me for trying to introduce, as a therapeutic measure, a new plan of using a drug that already numbers its slaves by thousands. In anticipation of such censure, I can only say that opium will be used in medicine so long as medicine is practised, and if we can bring forward a manner of using the drug that shall offer the following advantages, we are doing a real service to humanity:

*First.*—Maximum result from a minimum amount.
*Second.*—Rapidity of action.
*Third.*—Advantages of local effect.
*Fourth.*—Least physical, mental, and moral ill-effect from continual use.
*Fifth.*—Greatest difficulty in forming a habit when properly used.
*Sixth.*—Comparative ease with which the habit is broken.

The rapid spread of the habitual use of morphia hypodermically has been due to the placing of syringes in the hands of patients. If the physician will conceal the name of the drug he is using on the pipe and administer it himself to the patient, there is but little danger of the formation of a habit.

Finally, other drugs (their aqueous extract) may be combined in definite amount with the opium, and also used for inhalation.

191 West Tenth Street.

## A CASE OF
# PROLONGED INTESTINAL OBSTRUCTION,

### Due to Progressive Stricture at the Ileo-cæcal Junction, following Recurrent Attacks of Peritonitis.

By LEONARD WEBER, M.D.,

New York.

L. C——, eighty years of age, native of this country, bachelor, although for many years a retired merchant, had nevertheless been accustomed to a life of comparative activity. His personal habits included no vice, but he was said to be quite a gourmand, and would frequently indulge in excessive eating. Disease had been unknown to him for the greater part of his life.

Some five or six years ago, while living in the South, he contracted enteritis, and during the following winter suffered from troublesome diarrhœa. For the past few years he had been troubled, at irregular intervals, with obstinate constipation, attended with distressing flatulence and occasional attacks of local peritonitis, accompanied by severe pains, mainly in the right lower part of the abdomen. His general health, however, remained good, and he was able to undertake more or less extensive travels. In June of this year I was called to see him, and from that time until his death, which took place on the 8th of October, he remained under the professional care of myself and Dr. E. C. Wendt.

When first seen by us, his principal trouble appeared to be due to fecal impaction and paroxysmal colics. The illness from which the patient suffered had begun about eight weeks before. It appeared that the day before he was taken sick he had spent several hours in a cold and somewhat damp cellar, drawing off cider and taking copious draughts of the

same. Abdominal swelling and tenderness, flatulence, occasional vomiting, and increasing constipation, had been the most prominent symptoms. Latterly the constipation had become absolute, neither fecal matter nor flatus having been passed for several days before we saw him.

The physicians formerly in attendance had, among other cathartics, used large and repeated doses of mercurials, finally up to the point of salivation; but the impaction had not in the least yielded. Treatment by large enemata, given thrice daily by means of the long rectal tube, was at once begun. The tube was introduced to the distance of two feet or more. At first only one quart of water was used, then two quarts, and after a few days three quarts and more. In the beginning, tepid salt-water was poured into the funnel, which was connected by an india-rubber tube to the rectal instrument; then ox-gall and soap were added to the water. Abundant masses of an intensely disagreeable odor soon came away. As a rule, they had a somewhat remarkable character, resembling oyster-shell chippings in color and brittleness. Sometimes huge lumps, which looked like mangled jelly-fishes, were brought away.

The relief which followed the persistent use of these enemata was a very marked one. Moreover, untoward results of the injections were not seen—*i.e.*, no tenderness or soreness of the lower bowel was developed. The patient, who for weeks before had been confined to his bed with complete anorexia, vomiting, intense colics, and all the mental agony incident to his distressing condition, after two weeks was able to leave his bed and walk about the room. There was now but little pain and discomfort, and, although his former appetite never returned, he relished his food, and presently went to the sea-shore.

It should be stated here that repeated careful examinations of the patient's abdomen, both before and after the relief of the fecal impaction, failed to bring out the presence of a tumor. The existence of malignant trouble was, however, suspected later on in the course of the disease, for reasons presently to be explained. During a paroxysm of pain the intestines, especially in the ileo-cæcal region, could be often distinctly felt to squirm, as it were, beneath the palpating hand. They were evidently thrown into violent contractions, and seemed to rebel in their efforts to propel the intestinal contents. It was this circumstance, considered in conjunction with the other symptoms, that led to the diagnosis of obstruction from the presence of adhesive bands at or about the ileo-cæcal junction.

The subsequent history of the case may be briefly told in the following way: From the sea-shore the patient went to the mountains, changing his quarters as pleased his fancy. Recurrent colics still troubled him, but he seemed much improved in other respects. It is a noteworthy fact that what he described as a normal evacuation of the bowels took place with some regularity almost daily. The voided masses were always rather soft, and but rarely formed. To show his almost entire well-being at this time, it may be stated that while at Lebanon Springs he would often undertake comparatively long walks, and enjoy a daily drive. His relatives said that during his stay there he was quite comfortable, in excellent spirits, and appeared to be fast regaining his loss in weight. Later on, in the Catskills, he had a violent attack which confined him to his bed for days. His abdominal symptoms were said to have been as violent as ever, barring the occurrence of dejections in a natural way. From this attack he never completely rallied. To make matters worse, he had taken some cathartic pills prescribed by a well-meaning physician up in the mountains.

When we saw him for the first time on his return to the city, we were appalled at the great change for the worse which had been wrought. There was now a pronounced cachexia, utter prostration, complete loss of appetite, and almost constant pain. Anodynes had to be freely used, together with liberal stimulation. There was only occasional vomiting, and the bowels continued to move. At this time we strongly suspected malignant disease, although a distinct tumor could not be mapped out. A rapid collapse at length terminated his sufferings.

The autopsy was made by Dr. E. C. Wendt, about twelve hours after death. By request of the family it was confined to the abdomen. The peritoneal cavity contained about two quarts of a turbid, yellowish fluid, with flakes of fibrin floating in it. The visceral and parietal peritoneum was thickened, and showed considerable vascular injection, the latter irregularly distributed and especially marked about the ileo-cæcal region. Adjoining loops of intestine, and the abdominal organs generally, were loosely matted together by recent adhesions. But the evidences of repeated attacks of localized peritonitis were also found. The cæcum was abnormally adherent, but the colon appeared quite natural, and contained some formed fecal matter in its descending portion. The mesentery, especially that supplying the ileum, was so contracted by firm and dense cicatricial tissue, that the small intestine had here assumed the appearance of a rosette formed of thickened loops and coils. The color of the intestine was a dark purple in this locality. In its entire length the small intestine was loaded with mingled gas and fluid.

A firm, ring-like cicatricial constriction was externally visible at the ileo-cæcal valve. No vermiform appendix could be discovered. The cæcum and lower portion of the ileum were removed from the cadaver. On exploring the opened gut the constricted valve was found to be so narrow as to admit with some difficulty only the tip of the little finger. The opening from the cæcum into the ileum was not easily found, owing to a great looseness of the mucous membrane, which formed a finger-like projecting pouch of abnormally large dimensions, acting as a misplaced valve. In the mucous membrane of the ileum no ulcers or cicatrices of former ones were visible, but the entire coat was much hypertrophied. In the cæcum and ascending colon circumscribed patches of hypertrophic mucous membrane, resembling polypi with a broad base, were quite numerous.

A remarkable and interesting feature in connection with the small intestine was the enormous hypertrophy of its muscular layer. This was greatest at the ileo-cæcal junction, whence the thickening gradually grew less, and finally disappeared altogether. Doubtless this was a truly physiological hypertrophy, being nature's answer to a call for increased work, which was necessary to overcome the effects of a gradually increasing constriction. It illustrated the same compensatory effort that is so frequently seen in cardiac diseases, especially with those lesions which result in stenosis.

Another point worthy of notice was the great prominence of the valvulæ conniventes. Ordinarily these folds are quite indistinct at and near the ter-

mination of the ileum. But here they were far more conspicuous than in a normal jejunum. The cause of this very unusual appearance was probably the hypertrophy, principally of the muscularis mucosæ, and, in a less degree, of the entire mucous membrane.

We have here presented a case of intestinal obstruction at the ileo-cæcal junction—rare as to the completeness of its progressive development, and of great practical interest on account of the degree of exactness with which the difficulty could be located during the life of the patient.

Having removed all fecal matter from the colon in the manner above described, we found on palpating the abdomen that two or three knuckles of intestine, close to and to the left of the ileo-cæcal junction, would, from time to time, show excessively increased peristaltic action, in order to squeeze some of the contents of the ileum through the existing stricture. The greatly enlarged and thickened portions of the ileum could often be distinctly felt through the parietes as hard and firmly contracted or contracting bodies. This condition would last for a minute or two, when the abdomen would again resume its soft and doughy condition, until the next effort at propelling the contents of the ileum into the colon would take place. The colon we had cleared of fæces, and found free from obstruction; the increased peristaltic action of hypertrophied intestine was invariably found to occur in the lowest part of the ileum. Hence we concluded that the impediment must be at the ileo-cæcal junction.

The patient having had repeated attacks of local peritonitis, with persistent pain in the right lower part of the abdomen, it seemed quite probable that cicatricial tissue was compressing the bowel, either in the shape of a strong false ligament or else as a more or less circular band. As already stated, it subsequently proved to be the latter.

Throughout the varying aspects of the case we still upheld this diagnosis, although a possibly malignant disease had to be thought of toward the close of life. The palliative treatment alone resorted to, was shaped in accordance with our diagnosis. Thus, fæces were never allowed to reaccumulate in the colon after the impaction had been successfully relieved. Moreover, cathartics were never given by the mouth, since they must naturally increase the patient's sufferings. Acting on these principles, then, we were able to greatly relieve the patient's pain and distress, and at least render the last four months of his life as comfortable as was possible under the existing circumstances.

136 West Thirty-fourth Street.

A Cincinnati Health Problem.—There are half a dozen distilleries in the western part of Cincinnati, where cattle and hogs are fattened by the thousands on the warm meal-slops from which the alcohol has been obtained. These establishments give rise to very offensive odors, and it is proposed by the Board of Health to remove them, on the ground that the odors are injurious to health. The vital statistics of the city, however, show that there have been fewer deaths in the district in question since the pens were built than there were before, and fewer than there are in the cleaner portions of the city, which are sought for their supposed healthfulness. This is an anomaly that is hard to explain, but it seems to be well established. In consequence, it is something of a problem what the Board of Health has a right to do.

# Progress of Medical Science.

The Systematic Weighing of Infants.—Dr. H. C. Haven's paper (*Boston Medical and Surgical Journal*, September 8, 1881) contains some valuable hints on this subject. The following directions are given: "A balance responding to two or three grammes—almost any in ordinary household use will do this—a set of weights, preferably metric, are the necessary instruments. The child should be weighed as soon after birth as practicable, being dried and wrapped in a piece of warm flannel. The weight of this should be previously ascertained, or, if always used, may be disregarded, being a constant factor, and not affecting the results, except in the slight original addition. During the first eight or ten days the weighing should be daily. The existence, persistence, and termination of so-called physiological loss is thus determined. The original weight should be regained from the fifth to the eighth day. After this, weekly weighings for the last five months, and later, fortnightly will suffice. The best time is in the morning, when the child's toilet is usually made. This gives slight additional trouble. The daily gain should be about twenty-five grammes for the first five months, at which time the weight at birth should be doubled. After this its gain gradually decreases to about ten grammes at the end of the fifteenth month, when the initial figures should be quadrupled. These numbers are the mean of a very large number of French observations, and have the demerit of being too exact. In general, however, the average daily gain in the first few months should not be below twenty grammes. If so, the child is badly nourished, sick, or going to be. There are exceptions to this rule—the gain being sometimes less, sometimes greater. It is always, however, in direct proportion to the original weight. If this is very small, the gain may be correspondingly small. The technical difficulties of carrying out this method are slight—certainly in any institution they would be—and any mother or nurse of ordinary intelligence can be trusted to secure accurate results.

The advantages gained by this method are many. In the treatment of disease we can tell with certainty whether the desired results have been attained; exactly what food—usually the most important of all treatment—is best suited to the child; we can tell in the wasting diseases of children where, often, the struggle for life is severe, if we are gaining or losing ground; if the food, whether milk of mother, nurse, or animal, or some one of the numerous preparations, affords sufficient and proper nutriment to the babe. The scales give us information far more reliable than the intelligence of the mother, the education of the training-school graduate, the experience of the monthly nurse, or even the experience, education, and intelligence presumably combined in the physician himself.

Three Cases of Sudden Deafness from Syphilis.—Dr. Samuel Sexton (*American Journal of Otology*, vol. ii., p. 301), referring to a former paper on this subject, published in the *American Journal of Medical Science*, July, 1879, says that he still, in opposition to some writers, retains the belief that the principal lesion is confined to the transmitting structures of the middle ear. In this belief he is in accord with the late Dr. F. J. Bumstead, who ex-

presses himself to the same effect in the recent edition of his work on venereal diseases.

The first case given by Dr. Sexton was that of a man, forty-five years of age, who gave no distinct history of syphilitic disease, but who showed scars which were declared by several experts to be those of syphilitic lesions. Two years and a half before the time at which he was first seen by Dr. Sexton (September 19, 1876), the patient began to suffer greatly from pains in the head, sometimes extending down the back of the neck and spine. These symptoms, together with vertigo, lasted six months, when an attack of hemiplegia occurred, affecting the whole left side of the body. Bell's palsy on the left side was also present. Following this attack, there was complete deafness of the left ear, whether occurring suddenly or not could not be ascertained. Under the use of the faradic current, the paralysis gradually grew better; the vertigo, however, continued. On November 15, 1875, about one year subsequent to the above, while walking in the street, feeling a little dizzy, he suddenly experienced deafness in his right ear, coming "quick as a flash." He was now absolutely deaf. He was soon after admitted to the hospital, where he remained six months without improvement to his hearing. During this time he had neither pains in the head nor hemiplegia, but he had Bell's palsy of the right side of the face. When examined by Dr. Sexton, the patient still suffered from vertigo and staggered when walking. He had pharyngitis, and the tympanic membranes were lustreless and contracted; when shouted at he could hear a voice, but could distinguish no words. By means of tissue conduction through bone, muscle, etc., he could hear a vibrating tuning-fork. The drums could be inflated.

Ophthalmoscopic examination showed the eyes intact. The air in the external meatus was alternately rarefied and condensed by Dr. Sexton's instrument for this purpose, with the hope that this method of gently but firmly causing oscillations of the conductive mechanism would possibly, in some measure, break up the adhesions; but all these efforts were unavailing. Phosphorus and bromide of potassium were given without much effect, and, later, iodide of potassium in five-grain doses thrice daily, but without marked benefit.

The second case was that of a man, forty years of age, who, three months after having had a chancre, which had been followed by general symptoms relieved by treatment, caught cold and suffered from Bell's palsy. Six months after the initial lesion, and three months after the palsy, he became suddenly deaf, subsequently suffering much with noises in the head and vertigo. On examination, pharyngitis, with the same condition of the hearing as in the first case, was observed.

The third case was that of a mulatto sailor, thirty-one years of age, with an obscure history of syphilis, probably dating back some six years. Fifty days before he was seen by Dr. Sexton, he had suddenly become deaf, and at the same time began to experience frontal headache and vertigo. On examination, both ears were found affected; there was pharyngitis with naso-pharyngeal catarrh. He could not understand anything spoken or even shouted. Intensely loud tones of high or low pitch were heard, and heard better when he was in the noisy streets. He could hear his own voice, and could sing in tune. Tissue-conduction existed for the tuning-fork when placed on the skull. Noises in head very pronounced. The meatus were found large, hyperæmic, with a rather dry and glairy look. The drumheads did not look thickened, but looked humid. There appeared to be a ring of hyperæmic tissue about the drumheads. The membranes were retracted; especially the right one. The patient was placed on twenty-grain doses of iodide of potassium, twice daily, with inunctions of mercurial ointment, followed later by the mixed treatment internally, under which the hearing increased, so that he could, after a month, hear and understand loud voices at a distance of six feet or more in the right ear.

Dr. Sexton remarks regarding the pathology of this ear affection, it may be surmised that granuloma, a circumscribed, small, round-cell infiltration, takes place within the tympanum; that the invasion is rapid; and that the conductive apparatus is prevented from performing its movements by the particular manner of fixation that occurs. It is doubtful if our present means of pathological study could definitely determine its seat in all cases. In cases one and two, the oral and pharyngeal symptoms are worthy of note as showing the probable existence of hyperæmia of the drums, from reflex sympathy, previous to the syphilitic invasion.

Dr. Sexton explains why antisyphilitic treatment was not used in the first two cases, and calls attention to the improvement gained thus in the third.—*Archiv. Dermatology*, July, 1881.

Primary Cancer of the Pancreas.—Kernig reports the following case: T. T——, a woman, fifty-three years of age, had been suffering for four months from alternate constipation and diarrhœa, with gradually increasing shortness of breath. When admitted into the hospital, on May 4, 1880, the patient was slightly emaciated and intensely jaundiced. The area of liver dulness was considerably enlarged; the lower margin of the viscus was distinctly felt two fingers' breadth below the free border of the ribs, and, though hard, was perfectly smooth. Slight œdema of the feet and abdominal wall, and moderate ascites were also present. As far as could be ascertained by physical examination, the lungs and heart were healthy. Bowels costive, no vomiting nor epigastric pain. The urine contained a large amount of biliary coloring matter. Pulse, 84; respiration, 24; temperature, 38° C.

After the administration of castor oil, the bowels moved several times and continued regular, but the dejections were always clay-colored. At the same time the ascites diminished, and the abdominal parietes becoming very lax and permitting of a more thorough exploration than had previously been practicable, a hard, uneven tumor, of the size of a small apple, was plainly felt deep down in the abdominal cavity in the median line, between the navel and the margin of the liver. The tumor seemed to be quite firmly attached to the posterior abdominal wall, and did not follow the movements of respiration.

Taking into consideration the intense icterus, the deep seat of the growth, the fact that it was not connected with the liver, and the absence of vomiting and epigastric pain, a diagnosis of carcinoma of the pancreas was made. It was, unfortunately, neglected to ascertain whether the fæces contained an excess of fat, nor was the urine examined for sugar. The further history of the case may be briefly summed up as follows: the ascites for some time continued to decrease, so that the position and shape of the tumor could be more accurately ascertained; it was oval, the longer diameter lying

transversely. Later, the ascites again increased to such an extent that the swelling could only be felt with the greatest difficulty. The urine constantly contained biliary pigment, was free from albumen, and varied in quantity from seven hundred to sixteen hundred cubic centimetres, reaching the latter figure only at the time that the ascites was passing off. The temperature was usually subfebrile, fluctuating between 38° and 38.5° C. in the evening, and between 37.3° and 38° C. in the morning. Toward the close of the disease, it became lower, even subnormal (on the day before death it fell to 34.8° C. in the morning and 35.6° C. in the evening). Progressive emaciation set in, and finally, on June 10th, the patient died comatose.

At the autopsy a neoplasm was found occupying the head of the pancreas, and adherent to the stomach at its pyloric extremity, and to the whole of the duodenum, without occasioning, however, any perforation of the mucous membrane. Four small and numerous minute secondary deposits were found in the liver, as well as a thrombus of the same nature in the portal vein. A short distance above its junction with the duct of Wirsung, the common bile duct was completely enclosed by the growth and almost occluded for a distance of five centimetres. Beyond this the lumen was dilated almost to the thickness of the little finger. On microscopic examination the growths were found to belong to the medullary variety of carcinoma.—*St. Petersburger Med. Wochenscrift*, February 5, 1881.

Origin and Growth of Enchondromata.—Wartman divides these tumors into two classes, those which spring from bone, and those which develop in the soft tissues. The former, which constitute three-fourths of all the cases, are usually pure enchondromata, and owe their development, according to Virchow, to some perversion of bony growth; the latter are found in the parotid gland, the mamma, thyroid gland, bladder, and lymphatic glands, and are generally mixed tumors. When composed of typical cartilage, their growth is usually slow and painless; the mixed varieties, however, are sometimes malignant. These tumors may grow from true connective tissue, in which event the fibres of the latter melt away, become hyaline and gradually coalesce, while the connective tissue corpuscles proliferate and the resulting daughter-cells (*Tochterzellen*) acquire a capsule. When the intercellular substance undergoes mucous degeneration we have myxochondromata. Again, these growths may spring from the endothelial lining of a blood-vessel or lymph-space. Finally, cartilaginous emboli, in whatever manner they gain admittance into the circulation, may become foci of neoplasm, in part, perhaps, by infecting the intima so as to induce proliferation of its component cells.—*Centralblatt für Chirurgie*, April 16, 1881.

The Relations of Lupus to Tuberculosis.—Baumgarten (*Virchow's Archives*, vol. 82, p. 397) holds that lupus and tuberculosis are essentially distinct formations. His conclusions are mainly based upon the histological appearances of the two varieties of neoplasm. Thus an almost constant feature of lupous masses consists of giant cells irregularly imbedded in granulation tissue. These are not present in tubercle. The former tissue is vascular, does not undergo caseation and is capable of direct transformation into cicatricial tissue, while tubercle possesses no vessels, undergoes cheesy changes, but never cicatrizes. Besides, according to Baumgarten, experimental inoculations conclusively prove the non-identity of the two processes, for while the transplantation of true tubercle into the anterior chamber of the eye is followed by tuberculosis of the iris and later by systemic infection, grafts of lupus produce only negative results.

Schüller's researches have led him to the opposite conclusion. While acknowledging that Baumgarten's description of the microscopical appearances of the two kinds of neoplasm, is, in the main, correct, he insists that it is true only when we compare lupous masses with tubercles of older date. If, however, we examine tubercles at an early stage of their development, as in cases of tubercular pleurisy and in recent cases of tuberculosis of the joints, we will find them histologically identical with lupous tubercles, that is, they consist of granulation tissue enclosing giant cells and provided with vessels. Again, while Cohnheim's experiments in inoculating lupus into the anterior chamber of the eye for the induction of tuberculosis have proved futile, yet Hueter succeeded in developing tuberculosis of the iris in a rabbit by the same method. From these and other arguments Schüller concludes that lupus and tuberculosis are, on the whole, identical processes, caused by the same virus, the intensity of the latter varying according to the seat and the nature of the tissues which it primarily invades.—*Centralblatt für Chirurgie*, February 19, 1881.

Scrotal Calculus.—A unique case of this affection is reported by Lippoman, in the *Wratschebuyja Wedomosti*, 1881, No. 454. The patient, a peasant, sixty-eight years old, stated that fifteen years previously he had suffered from difficulty in passing water, which finally became so aggravated that he consulted a physician, who removed from the scrotum by incision a stone weighing one hundred and twenty grammes. An urethral fistula resulted, through which all the urine passed, at first with ease, but of late with increasing difficulty. On examination a fistula was found just behind the peno-scrotal junction. All endeavors to pass a metallic or an elastic catheter per urethram were futile; only the anterior portion of the pendulous urethra was permeable. The scrotum was as large as a child's head, and was distended by a hard mass. The testicles were dislocated toward the external inguinal apertures, and were very much atrophied. On introducing a catheter into the fistula, it was arrested by a stone. On the following day an incision was carried from the fistula backward along the raphe of the scrotum, and four calculi, weighing in all forty grammes were removed. They were rough, of a grayish yellow color, showed facets, and consisted of phosphates. When placed in apposition they were as large as a goose egg. The cavity left after the operation was cleansed with carbolic acid, drained, and healed kindly, leaving a fistula, through which the patient urinated. Later he emptied his bladder with the aid of a self-made catheter, consisting of a goose-quill.—*Centralblatt für Chirurgie*, April 23, 1881.

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Gastrotomy for Extra-Uterine Pregnancy.—On the 13th of July, Dr. Beisone performed the operation of gastrotomy at term upon a primiparous woman, forty years of age, for extra-uterine pregnancy. A living and viable fœtus was extracted. Unfortunately, four days after the birth of her child, the patient was seized with septic infection and died on the sixth day.—*Raccog. Medico.*

# THE MEDICAL RECORD:

## A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., Editor.

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## THE AMERICAN ACADEMY OF MEDICINE.

Our esteemed friend, Dr. Richard J. Dunglison, of Philadelphia, the Secretary of the American Academy of Medicine, takes some exceptions to our recent editorial offering suggestions for the more extended usefulness of that learned body. His remarks are so much to the point, and are so deserving of consideration, that we do not regret the article which has provoked them, but rather congratulate ourselves that the enthusiastic advocacy of the claims of the Academy to recognition are so well presented. The criticism of the aims and purposes of the organization is, if we can judge from the present reply, calculated to do it good rather than harm, and so far we have reason to be more than satisfied with the outlook.

The Academy has always had our sympathy, and we have never hesitated to speak well of it when occasion required. It is, in fact, an institution which deserves more than it obtains, and which, with proper management, is destined to exert an immense influence for good, not only upon the present, but the rising generation of medical men. It numbers already among its members some of the most distinguished and influential physicians of this country, and our only concern has been, by anything we may have written, to make it still more representative and useful.

In view of the data so positively given by the distinguished secretary, we are reluctantly forced to the admission that the number of medical men eligible to membership is much below the supposed average, but still this is large enough to increase the ranks many fold of good workers and true. We are glad to learn that the initiation fee is the only one exacted of the members. On this score a very tangible objection to the management of the organization has been removed. The diploma, being only a matter of choice, does not practically incur any additional pecuniary obligation. The admission of all who have received a degree of Bachelor of Arts, instead of such as possess the Master's degree, as heretofore, certainly opens a wider door, and is a decided improvement in the proper direction.

But, admitting all these possibilities for good, there comes a far more important question to answer. Aside from the honor of membership to such a society, what tangible good accrues to the member? Certainly, more should be expected of an organization than a meeting once a year, in which an annual address is delivered and the officers elected. With due deference to the orators who have so learnedly and eloquently upheld the cause of advanced medical education, it appears that something more is needed to vindicate the claims of the Academy to recognition by the profession at large. Although it may be eminently useful to agitate in a general way the necessity for the proper preliminary training of medical men, nothing clinches an argument so forcibly or so directly as the proof of its practical application.

The time appears to have arrived when the Academy must vindicate its claim to wider recognition by other means than those employed. The proper way to prove the value of membership to such an organization is the useful work which the latter can perform for the profession.

It need not be said in this connection that the profession is now looking to it to develop the material it has at its command by valuable contributions to the healing art which shall be not only meritorious as literary productions, but valuable additions to our knowledge of the treatment of disease. There is really no reason why both these functions should not be associated with the good purposes and legitimate aims of the Academy. If such were done, there would be no need for inquiring why the organization does not grow faster and rise to its high privilege of demonstrating the value of thorough preliminary training. In no more practical way could it prove that a literary education is of the greatest value to the medical man; in no more direct manner could it settle the question that those so trained could accomplish the best work in intelligently investigating the laws of nature and in successfully applying them to the cure of disease and the mitigation of human suffering. These are the privileges of the Academy, and the Academy must arise and assert them. Let the members contribute papers on medical subjects; let them, by the investigation of such topics, prove the superiority of the higher education, and by their methods of study show the example how scientific work should be done with all the advantages of broad, general, and liberal qualifications. We submit that this is not impracticable, and will be in keeping with the best interests of the Academy and with the truest advancement of medical science. The mate-

rial is ready, and the Academy can have no higher aim than its proper development. The transactions can then comprise something more than an annual address, and its membership can swell to its proper and legitimate proportions. At present, however, aside from proving eligibility, the membership is, comparatively speaking, an empty honor, and is consequently not sought for as it would otherwise be. It can thus become an Academy of Medicine in spirit and in truth, and vindicate its claim as one of the leading medical organizations of the land. We would fain believe that this may be its ultimate aim, and that each member may have the best of reasons for being proud of its achievements as a model and progressive medical society. No one better than its secretary and other active members are able to appreciate the practical results that would attend the fulfilment of such a high mission.

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THE PHYSICAL AND INTELLECTUAL STATUS OF WOMAN.

We give in another column some of the facts recently put forth by M. Delaunay, as evidencing the physical and intellectual inferiority of woman. It will be seen at once that the writer has only industriously compiled what has, for the most part, long been known to those at all acquainted with the medical sciences. The lay press, while extensively quoting Delaunay's statements, has added to them, as a rule, only expressions of incredulity or wonder, and has rarely given any intelligent criticism regarding his conclusions.

The test of a physical superiority lies as much in the completeness with which the organism is adapted to its ends, as in its strength and complexity. The whale has larger bones than man, the cockroach a stronger muscular fibre, the dog has denser blood and more corpuscles, the gorilla has a more highly developed osseous and muscular system, the donkey a lower pitched voice. The respiratory phenomena are more intense in birds than in man, the delicacy of the muscular mechanisms is greater in a number of lower animals, and the fastest trotter is Maud S. The cranial capacity of the canary bird is greater in proportion to the size of its body than is that of human beings, male or female.

We state all this only to call attention to the fact that it is not by yard-stick or scales alone that the question of physical superiority can be settled. One must ask also whether the animal is not proportionately fitted for the struggles of existence. And looked at from this point of view, the case is not such a hard one. Women can endure pain better, can lose more blood and more sleep than men. Though they eat less they assimilate, in proportion, more. Though the brain is less heavy it is less often diseased, and though woman has less bodily strength, she oftener reaches old age. So one might go on through a list of *per contras* that might offset a number of M. Delaunay's propositions. It would all tend to show, however, only that woman physically was as complexly built, and yet almost as well adapted to her environment as man. Mentally there can, of course, be but one thing said. In quickness of perception, in delicacy and strength of feeling, in unselfishness and capacity for self-sacrifice, she may claim superiority. As regards the harder intellectual traits, the dictum of Mr. Charles Reade is no doubt true: that the picked woman only is superior to the average man. Woman's mental strength lies in what she can make man do more than in what she can do herself, and the only question is whether medical societies or individuals should decide who has these fundamental qualities.

This is a question not to be lightly considered or hastily answered. But, meanwhile, it is quite generally admitted that organized efforts to persecute and crush out any apparently untenable system are unwise. The more sensible and effective plan is to offer as little active resistance as possible. It is one of the fundamental facts in politico-economical science that by paying out to the calf plenty of rope it will be sure to eventually hang itself.

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NEW METHODS OF TREATING ERECTILE TUMORS.

M. Constantine Paul presented to the French Academy of Medicine, recently a child whom he had cured of an erectile tumor by vaccinating the growth. M. Paul claimed that he had devised a new method for treating this class of disorders. We are not aware that he claimed for his method of treatment any essential originality. At any rate, vaccination as a method of treating small nævi has long been known to English and American surgery. But M. Paul described a new and peculiar process of performing the operation for vaccination, by means of which he had obtained the specially good results to which he called attention. In vaccinating by the ordinary method it would be quite probable that some part of the tumor's surface would not become affected. In this case the cicatricial tissue resulting from the inflammatory action would be only developed at certain points, leaving the rest of the tumor unaffected. In order to secure uniform inflammatory action throughout the entire surface, therefore, M. Paul covers the tumor with a layer of vaccine lymph, and then through this punctures are made all over the parts desired to be affected.

M. Paul presented a case treated in this way with quite notable success. The patient was a little girl who had had a large erectile tumor on the back of the head. It was situated below the occiput, extending on the right side nearly to the ear. It was, according to M. Paul, at the same time cutaneous and subcutaneous. The vaccination pustule had af-

fected the whole part, and was three months in entirely healing. The skin where the tumor had been was then completely devascularized, but there was some erectile tissue remaining beneath it. This M. Paul believed, from previous experiences, would finally atrophy and disappear.

In a subsequent discussion upon this method of treating erectile tumors, MM. Gosselin and Blot both took the ground that M. Paul's cure was incomplete, and that in all cases where there was any subcutaneous vascularization, vaccination would be nearly futile. It could, however, cure superficial erectile tumors, and in the subcutaneous forms it would at least give a hard, strong covering to the tumor, which would prevent any danger from ulceration or rupturing with hemorrhage.

Commenting upon this procedure, M. E. Ricklin (*Gazette Médicale*) refers to another easy method of treating these tumors, which has been successful in the hands of Dr. Schrumpf. This practitioner treated several cases by bandaging and compression. The tumors were very large, but were situated either on the fore- or upper-arm. By bandaging the extremity from the fingers up, the erectile tissue was made gradually to atrophy and disappear.

## Reviews and Notices of Books.

LANDMARKS, MEDICAL AND SURGICAL. By LUTHER HOLDEN, Consulting Surgeon to Saint Bartholomew's Hospital, London, etc. Assisted by James Shuter, M.A., Camb., F.R.C.S. Third edition. 8vo, pp. 73. Philadelphia: Presley Blakiston. 1881.

THE author has adhered to his original design in describing the "landmarks" on the surface of the body by abstaining from the use of diagrams and figures. By such means he hopes to stimulate in the student a desire to make out the "landmarks" on the body itself. The work is nicely printed and is of convenient size. This edition is a reproduction of the former one. Our good opinion of the work is still maintained.

A PRACTICAL TREATISE ON IMPOTENCE, STERILITY, AND ALLIED DISORDERS OF THE MALE SEXUAL ORGANS. By S. W. GROSS, A.M., M.D., Lecturer on Venereal and Genito-Urinary Diseases in the Jefferson Medical College of Philadelphia, etc. 8vo, pp. 174. Philadelphia: H. C. Lea's Son & Co. 1881.

DR. GROSS'S little treatise does exactly what its author would have it do, *i.e.*, it supplies in a conveniently compact form practical and mainly scientific information in regard to a class of disorders which, from their wide prevalence and occasional gravity, merit the careful attention of the practitioner. Such a work can hardly fail of professional appreciation, and we have no doubt that this unpretentious little volume will be a welcome guide to the general practitioner, who must needs come in contact with just such cases as are elucidated by the author. The different kinds of impotence are first discussed, and then followed by a chapter on sterility. This is considered from three different aspects, viz., azoöspermism, aspermatism, and misemission. Spermatorrhœa and prostatorrhœa form the concluding chapters of the book.

TRANSACTIONS OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA. Third series. Vol. v., 8vo, pp. 124. Philadelphia: Lindsay & Blakiston. 1881.

A GREAT part of this volume is taken up with biographical sketches of deceased members.

Dr. Robert P. Harris contributes two exceedingly interesting papers on foot-binding in China, giving an account of the operation and its results, and illustrating the latter with diagrams.

THE PRACTICE OF MEDICINE AND SURGERY APPLIED TO THE DISEASES AND ACCIDENTS INCIDENT TO WOMEN. By W. H. BYFORD, A.M., M.D. Third edition. 8vo, pp. 674. Philadelphia: Lindsay & Blakiston.

THE third edition of this work has been considerably changed as compared with the last. There are many evidences of revision, while much new material has been added to make up for the omission of puerperal diseases and diseases of the breast, which occupied considerable space in the previous edition. The general character and make-up of the work have not changed, however. Its distinctly individual peculiarities are still preserved, giving it a special value as a useful and comprehensive guide-book to the practitioner. The whole ground, as comprehended in the title, is quite thoroughly gone over, taking the reader through the accidents to the different parts of the female genitalia, and discussing their treatment; after which the diseases of these organs and their reflex sympathies are duly considered. The illustrations are very well executed, and in many instances are artistic. Very many of the instruments figured serve the double purpose of illustrating the text and advertising one or two instrument firms. The work is well up to the times, and will continue to be a favorite with such as practise gynecological operations, or treat uterine disease from the general practitioner's standpoint.

LECTURES ON DIGESTION: AN INTRODUCTION ON THE CLINICAL STUDY OF DISEASES OF THE DIGESTIVE ORGANS. By Dr. C. A. EWALD, Lecturer in the Royal University of Berlin, etc. Translated by Robert Saundby, M.D., Edinburgh. 12mo, pp. 149. New York: W. Wood & Co. 1881.

THESE lectures, twelve in number, discuss many of the abstract questions connected with the physiological chemistry of digestion, and apply them to the needs of the advanced student and practitioner. The amount of material compressed in them is a matter of surprise to the reader, and shows the author to be a thorough master of his subject. It is a work the value of which can only be appreciated by a careful study of its contents.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.—At the annual meeting, held October 24, 1881, the following officers were elected for the ensuing year: *President*, Dr. F. A. Sturgis; *Vice-President*, Dr. W. Gill Wylie; *Secretary*, Dr. Wesley M. Carpenter; *Assistant Secretary*, Dr. P. Brynberg Porter; *Treasurer*, Dr. O. B. Douglas; *Censors*, Drs. David Webster, Daniel Lewis, A. Jacobi, E. F. Ward, and E. B. Bronson.

# Reports of Societies.

## NEW YORK PATHOLOGICAL SOCIETY.

*Stated Meeting, October* 12, 1881.

Dr. T. E. Satterthwaite, President, in the Chair.

Dr. Wyeth presented

A TONSILLAR CALCULUS.

It was interesting on account of its rarity rather than its surgical importance. The patient had suffered from tonsillitis for about six months when he came under his observation. On examination he discovered a black speck just behind the anterior pillar of the fauces, and, on touching it with the probe, found that it was a hard substance. He enlarged the opening and removed the calculus presented, which was irregular in shape, and about three-eighths of an inch in diameter. After the removal of the calculus, the tonsillitis disappeared rapidly.

Dr. J. Lewis Smith said that he had met with one such case, and the inflammation continued until two calculi were removed.

Dr. Briddon thought that calculi existed very frequently in connection with chronic hypertrophy of the tonsils.

Dr. Wyeth asked whether he referred to calculi or to the cheesy masses so commonly found.

Dr. Briddon replied that in the centre of the cheesy masses calculi were usually found.

The President referred to a case of obstinate chronic tonsillitis in which he had occasion to push one tonsil backward, after which he saw the yellow edge of a foreign body, which, when grasped and released from its bed, was found to be a small calculus that had been lodged in a crypt of the gland. Marked improvement followed this trifling operation.

Dr. Van Gieson thought that these concretions did not stand in the relation of cause to effect, that is, the conditions of the tonsils produced the concretion, and not the concretion the tonsillitis. However uncommon they might be for the specialist, such bodies were not unfrequently seen by the general practitioner. He had not seen a calculus as large as the one presented by Dr. Wyeth, but had frequently found a hard nucleus in the centre of the cheesy masses removed from the tonsils.

Dr. J. Lewis Smith remarked that, in the case in which he had occasion to remove the two calculi referred to, they evidently kept up the inflammation. Although the tonsillitis produced the calculus in the beginning, the calculus, on the other hand, gave rise to secondary inflammation.

PROLONGED INTESTINAL OBSTRUCTION DUE TO PROGRESSIVE STRICTURE AT THE ILEO-CÆCAL JUNCTION, FOLLOWING RECURRENT ATTACKS OF PERITONITIS—ENORMOUS HYPERTROPHY OF THE MUSCULAR COAT OF THE ILEUM.

Dr. E. C. Wendt presented a specimen which illustrated the above condition. [See p. 515.]

Dr. Briddon asked Dr. Wendt if, in the case reported, any fecal tumor was discovered during life.

Dr. Wendt remarked that the physical signs were not well marked, although the rational symptoms all pointed to fecal impaction; still, some dulness was found in the ileo-cæcal region, and dulness was also found corresponding to the ascending, the transverse, and the descending colon.

Dr. Briddon asked if tympanites was present in the umbilical region or in the region of the colon.

Dr. Wendt replied that at first the tympanites was general. There was an enormous distention of the entire abdomen, which had even interfered with respiration, when they first saw the patient. Later, the tympanites changed its position, but, as a rule, it was most conspicuous on the right side.

Dr. Briddon remarked that when obstruction existed above the ileo-cæcal valve, tympanites was likely to be developed in the central portion of the abdomen; whereas, when the obstruction was at the sigmoid flexure, it was most evident in the colon. He further remarked that it was only in chronic cases that we were able to feel, through the abdominal walls, the coils of intestine contracting under the hand. He also thought that the thickening of the lower part of the ileum and the increased size of the valvulæ conniventes might be the result of a previous distention of the gut. There must have been considerable distention of the intestine at some time, so that the mucous membrane had been involved as well as the other coats, and when that distention was relieved, the gut emptied itself and then contracted, leaving these folds more prominently marked. He also asked if laparo-ileotomy was thought of at any time during the progress of the case.

Dr. Wendt replied that the patient, when first seen, was in such a poor condition that an operation was not to be thought of. He further remarked that the obstruction above the ileo-cæcal valve became prominent only after the fecal impaction had been relieved; that there was then no indication for an operation, and that there was only a moderate amount of dilatation of the intestine.

Dr. Briddon remarked that he was unable to understand how any condition should preclude the performance of laparo-ileotomy in a case of impaction due to contraction and that refused to yield to other treatment. He also suggested that the hypertrophy of the valvulæ conniventes might be due in part to a chronic catarrhal inflammation of the mucous membrane, such as is usually met with in such cases.

Dr. Wyeth thought that the most singular feature of Dr. Wendt's specimen was the hypertrophy of the valvulæ conniventes. Why this portion of the absorbent system should be involved, he was not able to understand. He further remarked that the valvulæ conniventes cannot be obliterated by any amount of distention of the intestine.

The President said that, in seeking an explanation of the marked prominence of the valvulæ conniventes, it would be desirable to know whether or not the intestine was in a state of contraction. If it were still in a state of intense contraction, it was easy to understand how the mucous surface might be thrown into folds.

Dr. Wendt remarked that the intestine at the autopsy was moderately distended with fluid and gas; and he further remarked that the hypertrophy of the muscular coat of the intestine extended upward for about three yards, gradually diminishing from the ileo-cæcal valve.

Dr. Wyeth suggested that the increased size of the valvulæ conniventes might be secondary to the hypertrophy of the muscular coat.

The President remarked that it was easy to believe that it might be secondary. He regarded it as

very much like the condition of the mucous membrane of the bladder when that viscus is hypertrophied in all its coats. When such a bladder is in a state of contraction the redundant mucous membrane represents an uneven surface, filling in the cavities between the muscle-bundles.

Dr. Heineman thought that Dr. Wendt's explanation was the best offered, for the reason that there was uniform thickening of all the coats of the intestine. The mere fact of distention existing for some time would not be likely to result, by subsequent contraction, in such a hypertrophy of the mucous membrane, and produce such a marked prominence of the valvulæ conniventes. He thought that the portion of the intestine presented was evidently still dilated, as could be proven by placing its cut surfaces in contact with each other, and thus restoring the lumen. We could not judge of the narrowness of the stricture from its present condition. It was well known that intestines, unless well preserved, soften very quickly after autopsy, so that a stricture which at post-mortem would hardly admit the tip of the little finger, would soon so increase in size as readily to admit the thumb. Again, with reference to the suggestion made by Dr. Briddon, that chronic catarrhal inflammation might account in part for the hypertrophy of the valvulæ conniventes, he thought that such a result would not occur from this alone. He had not seen so marked a thickening as existed in the specimen presented in any case of chronic catarrhal inflammation involving such an extent of the small intestine. In this case the hypertrophy was in the last portion of the small intestine, the duodenum and jejunum not being involved. The obstruction itself was probably the cause of the condition, and was presumably one which had acted continuously for some time.

The President was inclined to think that there was hypertrophy of the coats of the intestine, and that it was compensatory in character, exhibiting the vigorous efforts nature had made to force the intestinal contents through the stricture. Though the gut might have been found partly filled with its normal contents, and the actual lumen of the specimen greater than normal, it seemed, from the great thickness of the cut walls, that contraction had taken place, so that very great dilatation must have previously been present. Such a tube could not contract down to the normal extent, owing to the thickening of the muscular and connective tissue elements in the coats. It was in the same condition as a dilated and hypertrophied bladder which had contracted to its utmost limits, and yet was far from contracting sufficiently to expel its contents. The marked prominence of the valvulæ conniventes and their abnormal occurrence in this situation might be partly due to the increased nutrition of the adjacent tissues, partly to longitudinal contraction of the gut.

Dr. Wendt remarked that, no matter how much the intestine was stretched in this case, the valvulæ conniventes could not be obliterated.

Dr. Briddon remarked that he did not wish to convey the idea that the prominence of the valvulæ conniventes was necessarily the result of contraction in the previously dilated gut; but that the gut had been dilated he did not think there was any doubt, and the existence of the excessive tympanites during life sustained that view.

Dr. Wyeth remarked that it was stated in the books that the valvulæ conniventes did not extend all the way around the intestine, whereas, in the specimen presented, they encircled the gut almost completely.

### Intestines illustrating aggravated lesions of typhoid fever.

Dr. Wendt also presented several specimens of intestines removed from the bodies of patients who died at the St. Francis Hospital.

They illustrated excessive ulceration and thickening of the mucous membrane as a result of typhoid fever. In two cases death occurred in consequence of profuse intestinal hemorrhages, and, in a third, it was the result of perforation. His principal object in presenting them was to show by direct comparison the enormous hypertrophy of the intestinal walls which existed in the first specimen. If we remembered that the normal thickness of all the intestinal coats was commonly only one millimetre, then a thickness of one centimetre, as it here existed in the ileum near its conjunction with the cæcum, must indeed be very remarkable. He had measured the different coats of the intestine under consideration, and had found that the muscular coat alone measured from two to four millimetres.

### Cerebro-spinal meningitis.

Dr. J. Lewis Smith presented a brain removed from an adult, with the following history: A primiparous woman was confined in one of the maternity wards of the New York Infant Asylum. The labor, on August 6th, was normal. Neither accident nor complication occurred after confinement, and the woman was apparently fully convalescent, when, on the 29th of August, she first complained of severe pain in the left hip, and also in the head.

But little attention was paid to the complaint until the following day, and then it was found that the headache was intense, and that she was at times delirious. She had no vomiting, which is so common in the beginning of meningitis. On the 31st of August the vaginal temperature was 102.5° F., the pulse 120. There was no marked acceleration of respiration. She screamed often, but usually lay in a doze; the muscles of the nucha were rigid, and the head was retracted. On the first of September strabismus was observed, and there was also paralysis of the right side of the face, the mouth being drawn to the left.

Dr. Smith saw the patient about twenty-four hours before death. Diagnosis had already been made of either apoplexy or cerebro-spinal meningitis, but the symptoms pointed more strongly to the latter.

About twelve or eighteen hours before death her vaginal temperature was 104.5° F. She died after an illness of three days, and in a state of coma.

At the autopsy there was found in the meshes of the pia mater, along the base of the brain, extending forward from the pons varolii, as far as the fissures of Sylvius, and along these fissures, a purulent exudation, with a moderate amount of fibrine. The exudation was not great, but it obstructed to a certain extent the view of the brain, especially along the course of the vessels. Upon the left side of the brain the exudation extended over the convex surface of the posterior half of the hemisphere to the vertex. It was not thick at any point. Almost no serous exudation escaped when the calvarium was removed. The brain was placed in alcohol, and after it hardened a few days it was opened, and there was found an evident softening of the walls of both ven-

tricles, perhaps part of it was cadaveric. From the history of the case and the lesions found at the autopsy, Dr. Smith had no doubt that the case was one of epidemic cerebro-spinal meningitis. He then referred to an epidemic of this disease which occurred in this city in 1873, commencing among the horses of the large car-stables before it appeared among the people, and at that time it occurred in all parts of the city, but more especially among the tenement-house population, where it was very fatal. In this epidemic he observed between forty and fifty cases.

About a year ago the disease began to appear in the upper part of the city, and since that time he had seen twenty-one cases of what he regarded as undoubtedly epidemic cerebro-spinal meningitis.

During this epidemic the meningitis had been most prevalent and fatal in the tenement-house population, as it was in 1873. With reference to the etiology of the disease, there were some cases which occurred under circumstances which were especially interesting. We seldom meet with multiple cases, from the fact that, the disease not being contagious, does not spread from one to another. During the present epidemic Dr. Smith had, however, seen three cases in one family, and he also learned that a workman employed upon the premises had died of the same disease, thus making four cases in one family—if the first was a genuine case. These people were engaged in procuring heads of cattle and removing the skin, which was utilized, and the fleshy portions were sold to manufacturers of bologna sausage and head-cheese.

They had, when he made the inquiry, four hundred and fifty of these heads in their building, which was about the usual number. The building was wooden, two stories high, with a frontage of about thirty feet, and the usual depth of a city lot. As a natural consequence, more or less decomposing animal matter lay about, and the family lived directly over the shop.

It would seem that the presence of this decaying substance afforded explanation of the fact that these multiple cases occurred, whereas all the other cases which he had observed in the late epidemic occurred singly, as is the rule.

Therefore, from observations made in the recent epidemic, as well as in that of 1873, Dr. Smith believes that when multiple cases occur we are ordinarily able to trace them to exposure, to foul air, or to other anti-hygienic conditions. In the epidemic of 1873 he attended only one family, in which three cases occurred. They were of a very severe type, and the apparent cause was the dirty state of the apartments and consequent impure air.

The mother, exhausted by her incessant attendance upon the children, had allowed the soiled bedclothes to accumulate till the death of one of them. Fatigued and dispirited, she spent a considerable part of a day over these clothes in washing them, and she had hardly finished her task when the ominous headache began, and she, too, died after a short sickness. The severely afflicted Brown family, whose cases were reported by Dr. Schwalb in 1873, afforded another illustration of the effect of foul air as a cause of cerebro-spinal meningitis, at a time when the atmospheric conditions were favorable for its occurrence.

But several observations made in both epidemics show that there is an occasional exciting cause of a very different nature, to wit.: some undue mental excitement. Many who now fall victims during an epidemic would apparently escape if they led a more quiet and regular life, free from care and excitement.

He had elsewhere reported the case of a young lady at the head of one of the departments of a large Broadway store, who was anxious, and overtaxed at the annual reopening, and immediately began to suffer from the disease; and of a girl who failed in her examinations in one of the public schools, went home excited and crying, applied herself unintermittingly to her books, and before bed-time had a violent headache, which ushered in a severe form of the malady. Indeed, so frequently in his practice in both epidemics had children who were subjected to the severe discipline of the public schools been affected, that he believed that when cerebro-spinal meningitis is prevailing the studies in these schools should be made light, and the parents should not impose irksome tasks at home. In the recent epidemic, a man of thirty-two years, very industrious and of active mind, the chief partner in a large and perplexing business, had two months previously convalesced from typhoid fever. When his health was nearly established he returned to his business, which, on account of his absence, now demanded his attention to the utmost of his ability. He applied himself beyond his strength to the duties of the firm, so as to feel exhausted each night. This state of affairs did not continue long when the disease attacked him, and ended fatally in thirteen days.

During the recent epidemic he had seen and preserved records of twenty-one cases, chiefly in his own practice, but some of them were visited in consultation.

The following table gives their ages:

Under one year, 1 (aged eleven months); from one to three years, 3; from three to five years, 5; from five to ten years, 6; from ten to fifteen years, 2; over fifteen years, 4 (aged nineteen, twenty-one, twenty-six, and thirty-two years).

Thirteen recovered; eight died.

The following *résumé* gives the time during which the thirteen who recovered remained in bed, unable to assume the sitting posture, even for a short time, unless with much exertion and an increase of suffering:

1, five weeks; 2, three months; 3, ten weeks; 4, three weeks; 5, four weeks; 6, sixteen weeks; 7, five and a half months (head retracted four months); 8, seven weeks (head retracted most of the time); 9, about six weeks; 10, —; 11, two months; 12, —; 13, two months.

The active period of the inflammation in these cases appeared to be within the first three weeks, the inflammatory symptoms being more marked and the temperature at the maximum during this period. The febrile movement, as is usual in this disease, varied in different hours of the same day, but in only one of those who recovered was a temperature about 105°F. recorded, which was in the latter part of the day in the third week. The ordinary highest elevation was 103°F. to 104°F., but it would probably have sometimes been higher, except for the constant application of ice to the head and nucha.

In those cases embraced in the table in which the patients were months in bed, the emaciation and weakness were usually extreme, and the result was for weeks uncertain. Some of them would, without doubt, have perished in this state of helplessness, except for the perseverance and devotion of their mothers. The one who lay five and a half

months in bed with rigidity of the muscles of the nucha, and pain whenever moved, for nearly that time, afforded an instructive example in point.

The following *résumé* gives the duration of the fatal cases: 1st, twenty-six days; 2d, thirteen days; 3d, five days; 4th, six weeks; 5th, eighteen weeks; 6th, eight days; 7th, three days; 8th, — days.

The death of most of these patients occurred from coma preceded by intense headache, convulsions, or delirium; but the one who lived eighteen weeks died apparently from bed-sores, which, probably, might have been prevented had the mother been sufficiently attentive, and removed immediately the bed-clothes whenever soiled. Three very large sores, located over the sacrum and each hip, extended nearly or quite to the bone, and although the appetite had begun to return, and the child had become conscious from a state of semi-coma, its recovery was impossible, in its very emaciated condition, with so abundant a suppuration.

All who have witnessed an epidemic of cerebro-spinal meningitis are aware of the disastrous results of the intercurrent eye and ear affections which now and then supervene. These organs are so damaged that their functions are, as a rule, lost totally and forever. In one of the twenty-one cases, however, a boy of three years and seven months, who was two months in bed, hearing appeared to be entirely lost in the beginning of convalescence, but he now evidently hears when spoken to loudly. In one other patient only were the ears involved, and the loss of hearing has been complete. Since the ear-malady was deep-seated, there was apparently no injury of the drum, no external discharge, and no symptom except loss of hearing, to direct attention to the ear. If there were earache, it was not distinguishable from the neuralgic pains which are so common in this disease. In one case only was the eye involved—a girl of thirteen years, who died at about the sixth week. When nearly one month sick, she had violent, deep-seated inflammation of one eye, which soon completely destroyed the organ. The other eye escaped.

The result of treatment in the recent epidemic was somewhat more favorable than in 1873, when about fifty per cent. perished. Thirteen in twenty-one recovered. The treatment consisted in the free use of bromide of potassium, ergot in the beginning, with ice to the head and nucha, and the moderate and cautious employment of opiates to relieve pain and procure rest. It is in the first two or three weeks that the danger is greatest, and medicinal treatment is of most importance. Afterward the chief reliance must be on good nursing, and the use of nutritious but unstimulating diet, with a little medicine, as occasion may require.

Dr. J. C. Peters thought that cerebro-spinal meningitis occurred rarely where there was a good sanitary condition.

Dr. Carpenter referred to an epidemic through which he passed, and in which the disease attacked single patients among the best families over an area of territory two miles in diameter, and in not a single instance could it be traced to defective drainage or filth.

Dr. Van Gieson referred to an epidemic of the disease which occurred at Long Branch about twenty years ago, and at that time it was thought that the disease was transported to the city of New York; but the origin of no case was ascribed to filth. However, he supposed it to be tolerably well established that cerebro-spinal meningitis is essentially a filth disease.

Dr. Peters remarked that the sanitary condition of Long Branch was always sufficiently bad.

Dr. Van Gieson asked if facial paralysis was not a rare symptom in cerebro-spinal meningitis.

Dr. Smith believed it was. It occurred in one of the twenty-one cases which he had seen during the past year, and which recovered.

Dr. Van Gieson remarked that, with a tolerably extensive experience in this disease, he had not noticed in any case the existence of facial paralysis.

Dr. Garrigues thought that the case reported by Dr. Smith was a mixed one; that the paralysis of the right side of the face must be attributed to the changes in the interior of the cerebrum. It seemed to be a case of cerebro-spinal meningitis complicated with encephalitis. Probably the reason why Dr. Van Gieson had not seen facial paralysis was because his cases had been those of simple cerebro-spinal meningitis.

Dr. Smith believed that it was a fact that softening of portions of the brain and spinal cord was not uncommon in connection with cerebro-spinal meningitis.

Dr. Carpenter thought it was rare to find localized softening.

### RUPTURE OF THE INTESTINE.

Dr. Heineman presented three specimens of rupture of the intestine as a result of different kinds of violence.

The first was removed from the body of a boy five years of age, who, on the evening of July 21st, was last seen playing upon a wagon. About an hour afterward the other boys came and told his mother that he had been injured, and when the mother reached the child she found him unable to speak and in great pain. He was brought to the Roosevelt Hospital on the evening of the 21st, and died on the following day at eleven o'clock. At the autopsy bloody serum was found in the peritoneal cavity, and there were signs of peritonitis. There was rupture of the duodenum on its posterior surface, where it lies against the spinal column, for an extent of about four-fifths of its circumference. There were no external marks of violence upon the body, except a very slight scratch on the back. There was slight discoloration beneath the peritoneum, and on further examination it was discovered that the rectus abdominus muscle had been ruptured, and there was an effusion of blood into its tissue. There was enlargement of Peyer's patches, and also of the solitary follicles and mesenteric glands—a condition not unusual with irritation in the peritoneal cavity.

The second specimen was removed from a man who had been kicked by a horse on September 3d. He vomited immediately afterward, and had intense abdominal pain. He entered Roosevelt Hospital on September 8th, and died on the following day. At the autopsy, rupture of the ileum was found. The patient had lived with this rupture six days after the injury. Another peculiarity and interesting point in connection with the rupture was this: it was noticed by Dr. Delafield at the autopsy that the opening in the intestine looked like one made by a phthisical ulcer, and when the specimen was fresh, it could not be distinguished from that variety of ulcer. In that respect it was interesting from a medico-legal point of view. If there had been other ulcers in the intestine, and the patient had been kicked by another man instead of a horse, it might have been difficult to decide as to whether the opening in the intestine was a rupture from vio-

lence, or whether it was due to phthisical ulceration.

The third specimen was removed from the body of a young man who fell thirty or forty feet. There was intense pain and an enlarged area of dulness over the peritoneal surface, and at the autopsy a large rupture of the duodenum was found, and fecal contents had escaped into the peritoneal cavity. There was general peritonitis, swollen mesenteric glands, and enlarged Peyer's patches. The three cases were interesting from the fact that they had all occurred within the last three months.

DR. WYETH asked if diagnosis of rupture of the intestine was made in the hospital in the second case.

DR. HEINEMAN replied that it was, and that the patient was treated for peritonitis.

DR. VAN GIESON asked whether the abdominal cavity contained food or fæces in the first case.

DR. HEINEMAN replied that partially digested food was found in the peritoneal cavity.

DR. VAN GIESON thought that rupture would be less likely to occur when the intestine was empty than when it was filled with partially digested food.

The society then went into executive session.

## Correspondence.

### THE AMERICAN ACADEMY OF MEDICINE.

TO THE EDITOR OF THE MEDICAL RECORD.

DEAR SIR: In the issue of your Journal for October 8, 1881, is a leading article headed: "A Suggestion for the American Academy of Medicine." As you are yourself a Fellow, any suggestion you may advance will, naturally, receive from that body respectful consideration, whether offered at the meetings or from the editorial chair. To those, however, who may not be familiar with the objects of the Academy, its capabilities and prospects, the allusions made by you are apt to create a false impression. You inquire, "Why does the Academy get along so slowly?" In reply, I may say that it is not, like the American Medical Association, a body made up largely of delegates from other societies, but that its increase of membership is dependent upon individual efforts. Each Fellow before election must sign an application for membership, stating facts as to his possession of a literary degree, and this application must be endorsed by a pre-existing Fellow. The Academy is yet young—only five years old—and is, therefore, not numerically strong—having about one hundred and fifty members—and, as in all other bodies, the active work, including the procurement of new members, falls to the lot of a few. The increase of membership has been hitherto retarded by the restrictive clause in the Constitution of the Academy, which limited Fellowship to those who had already received the degrees of A.B. and A.M.; but this impediment was removed at its recent meeting in New York, the rule being then adopted that Fellows hereafter may be chosen from those who have received the degree of A.B. or A.M. There is a large number of medical men in the United States who have received the degree of A.B., but have never applied for the A.M., and some also who have received, in regular course, the degree of A.M., as at Brown University and the University of Virginia, without having obtained the A.B. The Academy has wisely determined that the possession of either degree is evidence of a collegiate education, especially as in almost all institutions the A.M. degree has been conferred simply after three years' delay, without any additional examination. Now that the door of entrance to the Academy is more widely opened, desirable acquisitions will doubtless be made to the lists of that body.

I think you overestimate the number of medical men who are eligible; I am satisfied that they are not, as you say, "among the thousands." Having had the opportunity of making a large collection of the complete catalogues of all the graduates at various literary institutions, I have been forcibly struck with the infrequency of medical graduation afterward among the classes therein represented. One or two of the annual addresses before the Academy have endeavored to emphasize this fact. Dr. Lente, in September, 1880, showed, from statistics furnished by the former secretary, Dr. Sibbet, that out of eighty thousand persons practising medicine in the United States, less than five per cent. have the degree of A.B.; and that, leaving out of consideration Philadelphia and Pittsburg, and their counties, there are not *two* A.B.'s in each county. Of eighty practitioners in Carlisle County, Pennsylvania, including the town of that name, with its literary institution, Dickinson College, there are but two who have taken their degree. Such seems to be the experience of the profession in other parts of the world, for in a letter received by me, a few weeks since, from Dr. G. M. Beard, he states that while fifty per cent. of English lawyers and judges are graduates of some one of the great universities, and seventy per cent. of the clergymen of the Established Church, not more than *one* per cent. of the physicians and surgeons, at the highest estimate, have so graduated. Even if there were, in the United States, many medical men who are conjointly A.B.'s and M.D.'s, it might not be possible or desirable for the Academy to elect them all, for the Constitution expressly provides that each candidate for fellowship must be in good standing, or of good moral and professional character. Besides, the history of all medical societies, at their inception, has been similar to that of the Academy. The American Medical Association, for example, with at least twenty times the number of medical men eligible for membership, was many years old before it secured an imposing array of members, or before it made much headway in the favor of the best men of the profession.

So far as making itself more generally known, as you suggest, the Academy has no annual volume of transactions and no official organ, but it publishes addresses annually, and will, in a short time, issue the recent excellent address of its President, Dr. E. T. Caswell, of Providence, R. I., as well as an elaborate report on the Laws of Medical Practice in the United States and Canada, both of which will be widely distributed. The Academy is the only society, in my knowledge, which does not demand an annual fee for membership. All that is obligatory is the initiation fee of five dollars, the diploma fee being wholly optional. Your strictures upon the payment of an initiation fee, without referring to this exceptional fact, seem to me unfair, and few, I think, would agree with you that this fee is unnecessarily great. The publications for this year alone will require a pecuniary outlay which, in other societies, would be met by the annual assessment of its members. This is, so far as we are aware, the first criticism that has yet been made upon the pay-

ment at the outset of a single fee that may cover perhaps half a century of membership.

As you suggest that the Academy does not make its object or even its existence sufficiently known, and as you have the opportunity, which no other Fellow of the Academy enjoys, of giving its true objects a wide dissemination among thousands of the profession, may we not hope to have your valuable assistance in securing for it a conspicuous place in the popular esteem, and in increasing its efficiency and augmenting its membership? In conclusion I would state, for the information of the profession generally, that the following are the objects of the Academy: 1st, To bring those who are alumni of classical, scientific, and medical schools into closer relations with each other; 2d, to encourage young men to pursue regular courses of study in classical and scientific institutions before entering upon the study of medicine; 3d, to extend the bounds of medical science, to elevate the profession, to relieve human suffering, and to prevent disease.

In the furtherance of these objects and in hopeful anticipation of their future accomplishment, are united some of the noblest members of the American medical profession.

Yours respectfully,

RICHARD J. DUNGLISON, M.D.,

*Secretary American Academy of Medicine.*

PHILADELPHIA, PA., October 19, 1881.

## HOMŒOPATHIC CONSULTATIONS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Your issue of October 29th contains a letter from Dr. J. B. Stair, of Spring Green, Wis., in which he criticises the position recently taken by Dr. Bristowe, on the question of consulting with homœopaths, in an address delivered by the latter at the late meeting of the British Medical Association. It may be stated incidentally that Mr. Jonathan Hutchinson, the eminent London surgeon, in an address before the same association, enunciated views substantially similar to those of Dr. Bristowe. These addresses gave rise to considerable correspondence in the English medical journals, and this correspondence the writer has followed with care and interest, and is inclined to believe Dr. Bristowe and Mr. Hutchinson are more than half right in their conclusions. Consequently, we feel compelled to join issue with Dr. Stair, as a thorough understanding and an early settlement of this question, is, we believe, a matter of pressing importance. Before commencing its discussion, however, it is expedient that there should be some mutual understanding as to the use of certain terms and phrases that will naturally be employed in its course. In the first place, Dr. S. says that a radical "difference exists between the doctrines of a regular physician and of a homœopathist." I must therefore ask the doctor to define what he means by a "homœopathist," and what by a "regular physician," and to distinctly and succinctly set forth the doctrines maintained by them respectively. This, we presume, his familiarity with the subject will permit him to do without difficulty. Awaiting the desired information, we remain,

Yours respectfully,

ETHICS.

DR. RICHARD GUNDRY has been appointed Professor of Materia Medica, Therapeutics, and Mental Diseases in the College of Physicians and Surgeons, Baltimore, Md.

# New Instruments.

## A NEW NEEDLE-HOLDER.

BY GEO. E. JONES, M.D.,

CINCINNATI, OHIO.

I WOULD call the attention of the profession to a needle-holder made by Mr. William Autenrieth, surgical instrument-maker of Cincinnati, by my suggestion, on principles entirely different from any other.

It possesses a power that no other needle-holder can claim, and is under the full control of the surgeon. It not only can be used as a needle-holder, but as a holder for other instruments, especially so by laryngoscopists, with safety, as there is no fear of it losing its grip. For the above specialists it can be made curved, although it was originally intended for gynecological work.

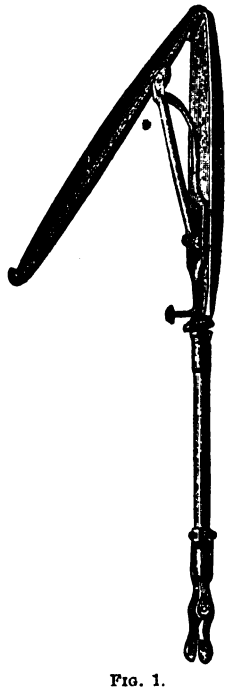

FIG. 1.

FIG. 2.

By referring to Fig. 1, the reader will see that the forceps is placed on the end of the tube; the jaws are closed by a wedge forced between the arms by a connecting rod, which is driven through the tube by a lever formed by one of the handles.

In Fig. 2 the long arm of the forceps forms one of the handles; the other arm is short, the jaws are closed by a wedge on the end of a shaft by lever-handles, the same as in Fig. 1. Either instrument, when closed, can be locked by a graduated slide under contact of the thumb. Mr. Autenrieth will also make a size suitable for the pocket-case.

THE Binghamton (N. Y.) Asylum for the Insane has been recently placed under the medical charge of a homœopathist. This is the second asylum for the insane in this State under homœopathic control.

## ARMY NEWS.

*Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from October 23, 1881, to October 29, 1881.*

BYRNE, C. C., Major and Surgeon. Par. 2, F. O. 26, C. S., from these Headquarters, relieving him from duty in this Department, and directing him to proceed to his proper station, Benicia Barracks, California, is confirmed. S. O. 119, Department of Arizona, October 17, 1881.

HARTSUFF, A., Major and Surgeon. Granted leave of absence for one month, with permission to apply for an extension of nine months, and authority to visit Europe. S. O. 214, Department of the Missouri, October 20, 1881.

GARDNER, W. H., Capt. and Asst. Surgeon. The leave of absence on surgeon's certificate of disability, granted him in S. O. 138, June 18, 1881, from A. G. O., extended three months on surgeon's certificate of disability. S. O. 239, A. G. O., October 31, 1881.

CARVALLO, C., Capt. and Asst. Surgeon. Granted leave of absence for one month, on surgeon's certificate of disability, with permission to go beyond the limits of the Department, and to apply for five months' extension. S. O. 108, Department of the Platte, October 24, 1881.

PAULDING, H. O., Capt. and Asst. Surgeon. Relieved from duty in the Department of the East, and to report in person to the commanding general Department of the Platte for assignment to duty. S. O. 240, A. G. O., October 24, 1881.

BROWN, P. R., Capt. and Asst. Surgeon. Relieved from duty in Department of the East, and to report in person to the commanding general, Department of Texas, for assignment to duty. S. O. 240, C. S., A. G. O.

CORBUSIER, W. H., Capt. and Asst. Surgeon. Relieved from duty in the Department of the Platte, to proceed to New York City, and, on arrival, report by letter to the Surgeon-General. S. O. 240, C. S., A. G. O.

DAVIS, W. B., First Lieut. and Asst. Surgeon. Relieved from duty in Department of Dakota, to proceed to Richmond, Va., and on arrival, report by letter to the Surgeon-General. S. O. 240, C. S., A. G. O.

## Medical Items and News.

CONTAGIOUS DISEASES — WEEKLY STATEMENT. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending October 29, 1881.

| Week Ending | Typhus Fever. | Typhoid Fever. | Scarlet Fever. | Cerebro spinal Meningitis. | Measles. | Diphtheria. | Small-pox. | Yellow Fever. |
|---|---|---|---|---|---|---|---|---|
| Oct. 22, 1881. | 0 | 20 | 113 | 3 | 13 | 86 | 10 | 0 |
| Oct. 29, 1881. | 0 | 36 | 121 | 5 | 12 | 101 | 22 | 0 |

IS GUITEAU INSANE?—As some confirmation of the view taken by the RECORD regarding the mental condition of Guiteau, we publish the following letter. It was written by J. H. Noyes, founder of the Oneida Community, where Guiteau lived for some time:

"G. W. SCOVILLE: *Dear Sir*—I see in the papers that you have named me as a witness by whom you intend to prove Guiteau's insanity. Perhaps it will save you trouble and expense if I inform you in advance that I do not believe in his insanity, and that I recollect no act or symptom of insanity in his life while under my observation. Probably I have more reason than any other man to know and detest his wickedness; but that is not insanity in any legal sense. I think that he was born with a special genius for mischief, and has had a real inspiration for it all his days; but that is not saying he is insane, unless we also call natural genius and inspiration for good things, such as invention, music, etc., insanity. I understand insanity to be unsoundness—disease of the brain; and I do not think that Guiteau has that any more than bears and lions have it. I agree with the old hymn, that such beasts growl and fight because 'it is their nature to.' With these views and the memory of my sore experience with your client, I am afraid that I should have to testify strongly against your main plea, and perhaps should be the means of sending him to the gallows, which I should sincerely regret on many accounts, and especially because his father was a dear friend to me and mine. But I must notify you that my regret would be mostly for my personal agency in the tragedy. Yours respectfully,

"J. H. NOYES.

"NIAGARA FALLS, ONTARIO, October 20th."

DR. J. J. YOULIN, a prominent physician of Jersey City, died at his residence, 130 Grove Street, in that city, October 30th, of heart disease. His age was sixty years.

A STRANGE CASE OF INHUMAN NEGLECT.—It is reported that a man who swallowed four ounces of oxalic acid, for a suicidal purpose, was left to die in a police cell at Hoboken, N. J., under the following circumstances: On Monday night last the police authorities of that place were informed that a man was lying at the Elysian Fields, apparently suffering great agony. An officer who was sent to inquire into the matter found the report to be true. The sufferer said his name was Adolphe Schaffer, of No. 179 Second Street, New York, twenty-five years of age, and that, having lost $300, he had taken four ounces of oxalic acid, with the intention of ending his miseries. He was conveyed to the police station, where Dr. Helfer was called in, who stated that the man was dying, and ordered him taken to the hospital, where he could be properly cared for, and antidotes administered. The police, instead of complying with the request, thrust the sufferer back into the cell, and there he was allowed to lie without further attention and without any effort to counteract the effects of the poison. At 8.30 the janitor found him dead on the floor. Chief Donovan, when questioned as to the affair on Tuesday, excused the conduct of the police by saying that they could not send any one to the hospital without an order from a City Physician, and that official could not write an order without permission of the Common Council. He also said that Dr. Helfer applied to Mayor Besson for the necessary permit, but it was refused, with the suggestion that the man be sent to New York, where he belonged. The explanation seems a strange

one, since the hospital is not a city institution, but belongs to the Sisters of St. Mary, is maintained by charity, and receives all classes, creeds, and colors, without the intervention of the police, and is noted in the community for the good work it is daily doing.

In view of the above circumstances, it is due to ordinary humanity that the parties who were accessory to this outrage should give a more satisfactory explanation of their conduct. It is decidedly the worst case of its kind that has come to our knowledge, and should receive the most thorough investigation.

THE GARFIELD HOSPITAL.—In furtherance of the project to erect and maintain a national hospital in memory of President James A. Garfield, the executive committee having the matter in charge have issued an appeal to all pastors of churches to aid in the good work. The institution is to be established in the District of Columbia, and is to be known as the Garfield Memorial Hospital. "It will be," says the appeal of the executive committee, "a provision for the relief of human suffering, from the cup of which he drank the bitterest dregs, and in the breadth of its human charity it will fitly typify the noble nature and exalted aims of the hero and martyr. The hospital is designed to be as wide in its scope of beneficence as was the kindly heart of the dead President in its outstretch of human sympathies. It will be open to those needing its aid and ministrations without regard to class, caste, creed, or color. To be a sufferer in need of help will be the only passport required to enter its doors and secure its aid. Such an institution, founded in the cause of charity and bearing the name of 'Garfield,' appeals to the generosity of every one, and to every one the appeal is made." At the suggestion of the committee, indorsed by a representative pastor of each religious denomination in Washington, a request has been issued to all pastors to set apart Saturday and Sunday next, November 5th and 6th, or the nearest available days, for discourses and collections in all places of worship throughout the land in aid of the hospital fund. The Washington pastors, Protestant, Catholic, and Hebrew, have joined with the committee in this appeal, which, it is hoped, will meet with a generous response. That the contributions will be properly applied is evident from the composition of the executive committee. Gen. W. T. Sherman is chairman of the committee, and among the members are Secretary of State Blaine, ex-Secretary of the Treasury Windom, Gen. G. D. Swaim, A. S. Solomons, the Hon. Josiah Dent, Justice Arthur MacArthur, James Gilfillan, Treasurer of the United States, Dr. J. M. Toner, Dr. E. Smith Townsend, Dr. F. A. Ashford, Dr. S. C. Busey, Dr. J. Ford Thompson, Dr. W. G. Palmer, Henry A. Willard, John W. Thompson, James H. Saville, Lewis J. Davis, Reginald Fendall, E. Frank Riggs, W. G. Metzerot, and H. M. Hutchinson. Treasurer Gilfillan has consented to act as treasurer of the fund, and all contributions should be sent to him. Small gifts will be acceptable as well as large ones.

THE PHYSICAL INFERIORITY OF WOMAN.—In M. Delaunay's now much-quoted researches upon woman's place in nature, the following facts are given as showing her physical inferiority: Among birds and mammals, including man, the nutritive phenomena are more intense in the male than in the female. The blood is denser, contains more red globules and hæmoglobin, and fewer white globules and water. Man eats more than woman. Yet although she eats less, the woman is more of a *gourmande* and eats more frequently. Our city women feed like children. The respiratory phenomena are likewise more intense in the man than in the woman; for an equal height he has a greater pulmonary capacity and a larger thoracic index than the woman, and he also absorbs more oxygen, though his respirations are less frequent. The temperature is higher in man than in woman, and the pressure of the blood greater, though the pulse is less frequent. The pre-eminence of the male over the female is especially evident from the point of view of animal life. The skeleton of the female is lighter in proportion to the total weight of the body; the woman, in all the physical characteristics of her skeleton, is intermediate between the child and the male adult, according to Topinard. The woman is not so right-handed as the man; the pre-eminence of the right side over the left is less in the female. Externally, the male is always larger than the female. The woman is not so heavy as the man, although she would often appear larger on account of the development of the adipose system, which in her is greater than in man. "In all our Indo-European series," says Topinard, "the woman is more prognathous than the man."

According to M. Delaunay's own researches, the woman is more flat-footed and less arched than man—a sign of inferiority; hence, he maintains, the preference of women for high-heeled boots. The female voice is always sharper than that of the male. Both in wild and domesticated animals, the male has the muscular system more developed than the female. The movements are more precise in man than in woman. Among pianists of the two sexes, the mechanism reaches a much higher degree of perfection in the men. The cranium has a greater capacity in the male than in the female. Huschke estimates for Europeans the mean capacity of the cranium at 1,446 cubic centimetres in man and 1,226 in woman, or a difference of 220 centimetres in favor of man. The form of the cranium also differs according to sex; in woman, according to Broca, the cranium is less high and more elongated. The brain of the male is heavier than that of the female; according to Broca, the brain of man is to that of woman as 111 is to 100. Further, the frontal lobes, the seat of the highest intellectual faculties, are less developed in woman than in man. On the other hand, the occipital lobes, which especially preside over the life of sentiment, are more voluminous in the woman than the man. In its totality, according to Professor Wagner, the brain of the woman is always in a state more or less embryonic.

PREVENTION OF PLEUROPNEUMONIA BY INOCULATION.—A sharp discussion upon this subject recently occurred in the Académie de Médecine, Paris, between M. Bouley and M. Leblanc. The former gentleman argued very strongly for inoculation. He asserted that it had been most efficacious as tried in Australia, Holland, England, and France, and that it ought to be enforced by law in the latter country. M. Leblanc recited cases showing that inoculation of the pleuropneumonic virus does not always confer immunity upon cattle.

PET ANIMALS AND CONTAGIOUS DISEASES.—The fact that pet animals can carry contagion, and thus be the means of spreading fatal diseases, is not widely known nor duly appreciated. We have heard of authentic cases in which scarlet fever was communicated from one person to another by means

of a cat. Dr. Hewitt, of Lake Superior, relates a somewhat similar instance in which diphtheria was communicated by the same animal. He had noticed for several days that his pet cat was suffering from an enlargement of the glands of the neck; he also remarked the same in other cats. His cat found a resting-place in the wall behind the stove, and there died. The day the animal was removed, diphtheria, in its most violent form, broke out in his family, resulting in the death of two or three of his children, and the doctor himself barely escaping with his life. Up to this time the community was remarkably free from sickness of any kind. It was the start of a severe epidemic.

We refer to this subject in hopes that more facts bearing upon it may be communicated by our readers. These are at present scarce, but a little attention paid to the matter would, no doubt, secure much that would be of importance to comparative and to preventive medicine.—*Journal of Compar. Medicine.*

Treatment of Cirrhosis Vulgaris of the Liver (Interstitial hepatitis).—In a paper published in the *Annali Universali di Med. e Chir.*, of August, Dr. Rienzi states that during the past year he has seen several instances of cure or remarkable amelioration in cases of cirrhosis vulgaris. He therefore combats the opinion of Frerichs, Lebert, Thierfelder, Jaccoud, Kunzer, Bamberger, Surré, etc., who claim that cirrhosis of the liver is an absolutely incurable malady. In eight cases of common cirrhosis cited, one patient was cured; in four instances, there was more or less remarkable amelioration, while in three no benefit was derived from treatment. The author's conclusions are these: 1st, cirrhosis of the liver is not to be enumerated as heretofore among absolutely incurable maladies; 2d, in some cases the milk-cure ameliorates the condition of the patients, in others it may completely abolish the morbid phenomena.

The iodide of potassium advocated by Prof. Semmola, proved inefficient in the experience of Dr. Rienzi, according to whom this remedy is useless, and may prove harmful to these patients. He attributes the former's favorable results to the fact that the milk-cure was used at the same time. Karlsbad water, natural or artificial, produces a little amelioration, but has no further effect. The milk-treatment furnishes the best results, and is the only one which justifies the hope of curing a patient affected with cirrhosis.

Effects of Removing Mountain Forests.—Attention has long been given to devising means to limit the ravages of these torrents, which ruin the land, threaten estates, destroy roads, and sometimes even compromise the existence of villages. Walls have been built along the banks to protect them, or across the streams to allay the force of the waters. The most efficacious means, however, as yet discovered, has been to maintain the woods on the slopes of the mountain. The effect of cutting away the trees in promoting the formation of torrents has not been doubted by the inhabitants of mountainous regions, and is clearly set forth by M. Surrell, who says: "When we examine the tracts in the midst of which torrents of recent origin have been formed, we perceive that they have in all cases been despoiled of their trees and bushes. If, on the other hand, we examine hills whose sides have been recently stripped of wood, we observe that they are cut up by numerous torrents, which have evidently been formed very lately. Here is a remarkable double fact—wherever there are recent torrents there are no longer forests, and wherever the ground is cleared these torrents are formed; and the same eyes that see the woods fall on the declivity of a mountain, may see appear there immediately a multitude of torrents."

The disastrous consequences of removing the woods from the Alps began to attract attention in the last century, and have since been discussed in many publications and official reports. In 1853, the Prefect of the Department of the Lower Alps said, in a report to the Minister: "If prompt and energetic measures are not taken, it will be almost possible to designate the precise moment when the French Alps will become a desert. The period from 1851 to 1853 will produce a new diminution in the number of the population. In 1862 the Minister will remark a continuous and progressive reduction in the number of hectares devoted to agriculture; each year will aggravate the evil, and in a half-century France will count more ruins and one department less." The departments of the Upper and Lower Alps actually lost thirty thousand inhabitants, or one-ninth of their population, between 1851 and 1876. A law for recovering the mountains with wood, which had been prepared by M. Forçade de Roguet, Director-General of the Administration of the Forests, was adopted by the legislative bodies in 1860, and was put in operation shortly afterward.—M. J. Cleve, in *Popular Science Monthly* for October.

Portion of an Arrow-Shaft Imbedded in the Lung of a Steer.—Dr. Francis H. Atkins, A. A. Surgeon, U. S. Army, Fort Stanton, New Mexico, sends us the following: "While slaughtering a steer recently, the butcher at this post found imbedded in the lungs of the animal a portion of the wooden shaft of an arrow, about thirteen inches in length, and the iron head of the same. The arrow impaled both lungs at about the sixth ribs, having entered between two ribs. The point struck a rib opposite on its lower bevelled border, and, glancing, chipped the edge of the bone, the arrow-head bending considerably, and curving around the outer surface of the next rib posteriorly, where it rested.

"The external portion of the shaft had been broken off by frequent bendings against trees, etc., leaving a much-frayed end just within the closed wound of entrance, which was marked by a well-healed cicatrix on the soft tissues about the ribs. The lung-tissues were in perfect health, and there were no pleuritic adhesions, while the arrow-shaft and head was apparently perfectly encysted. The sinew once uniting the head to the shaft had been absorbed. The shaft seemed encrusted at points with dried pus. The animal was about three years old, and, it seems probable, was above one year old when shot, else the iron point would have penetrated the rib, instead of bending and glancing. The butcher thought the steer was not as well nourished as it should have been. The arrow was doubtless shot into the animal by an Apache Indian, the ruthless slaughter of cattle being a favorite pastime of many Indians.

"The shaft-head and section of the chipped rib have been sent to the Army Medical Museum, Washington, D. C."

Concerning Sea-Sickness and Local Anæsthesia.—Dr. F. D. Lente, Pilatka, Fla., writes: "Will you permit me to insert a brief notice of two of your paragraphs collected from your exchanges, on page 389 of your last issue, for the benefit of your readers? In one, Dr. Hopkins gives a remedy for sea-sickness which relieved *him* on a short voyage,

and which he, therefore, recommends enthusiastically to the profession, under the head of 'Ergot for Sea-Sickness.' But, as he mixes equal parts of sodii bromid. with the ergot, there appears to be no reason why he should not head his article Bromide for Sea-Sickness. As the bromides are now the accepted remedies for the *prevention* as well as the cure of this malady, and as ergot has no such reputation, but usually disagrees with a weak stomach, I would suggest that it be left out of the prescription, the dose of the bromide to be much increased, and to be taken for three days prior to sailing (see 'Beard on Sea-Sickness'), as was originally recommended by me many years ago. An ounce of *prevention* is certainly, in this disease, worth at least a pound of *cure*.

"Article second relates to 'A New Method of producing Local Anæsthesia.' It states that 'Mr. Thomas Taylor, of the Agricultural Department at Washington, has devised a new freezing microtome, and, upon the same principle, a new method of applying a freezing mixture to the skin for producing local anesthesia.' In commenting on this ingenious contrivance, the *Cincinnati Lancet and Observer* says: 'It seems that ether-spray has had its days of usefulness.' If any of your readers should wish to revive the practice of local anæsthesia so much talked of and practised a few years ago, it may save them the expense of purchasing an unnecessary apparatus by reminding them that Arnott's old mixture of *ice and salt*, if properly applied, with no other contrivance than a piece of netting or tarlatan, will freeze the skin and cellular tissue white in a very few minutes, when an operation may be proceeded with for fifteen or twenty minutes with neither pain nor hemorrhage. You have simply to pound up the ice finely and mix it with fine salt, and apply in sufficient bulk.

Venesection vs. Providence.—A correspondent sends us the following extract from the valedictory address of Dr. R. B. Haywood, retiring President of the North Carolina Medical Society (vide *North Carolina Medical Journal*, July, 1881, page 1), and asks: "Is Dr. Haywood perfectly sure as to the time and place where this remarkable colloquy occurred? and will he kindly favor us with the original French in which (presumably) Messrs. Velpeau and Gerdy gave expression to this stunning witticism:

"I once had the good fortune of witnessing a consultation between Velpeau and Gerdy, in the *Hôpital la Charité*, Paris, over a patient with pneumonia. Gerdy proposed to bleed him. 'Bleed him,' says Velpeau, 'bleed him! What do I want to bleed him for? Don't kill your patient; but give God A'mighty a chance! 'Well,' says Gerdy, 'I am willing that God A'mighty should have a *reasonable* chance, but I don't think it will do always to give him *too much rope*.'"

Dr. John Menninger died on October 28th, at his residence in this city. He was fifty-seven years old, and in the active practice of his profession. Dr. Menninger came over from Germany as a political refugee in 1850. He had been a wealthy man, but his estates were confiscated. Since being in this country he took but little share in politics. Through all his life he was a close student, being particularly interested in chemistry. He made many important discoveries. Tinned paper was his invention, and brought him much money. He was a member of the German Social Scientific Society. Death was caused by a polypus growth in the throat.

The Woman's National Hospital.—The breaking of ground for the foundation of the Woman's National Hospital, at Wilton, Conn., was celebrated recently with appropriate ceremonies. Several hundred farmers, with oxen and plows, assembled, and after short addresses by the Rev. Mr. Thompson, of Wilton, and Dr. T. D. Crothers, of Hartford, and a poem by the Rev. Mr. Davenport, of Waterbury, Conn., a little daughter and son of the founder filled a barrow with the first dirt and wheeled it away. The oldest man in the town, Mr. John Jones, over ninety years of age, held the plow that turned the first furrow, amid great applause.

Virchow has just been elected to the Reichstag. He polled 17,400 votes, against 11,200 for the Rev. Dr. Stoecker, court preacher and leader of the anti-Semitic movement.

Quinine Insanity before the Courts.—Sergeant Mason, the guard who attempted the life of the assassin of President Garfield, will, it is claimed, urge the mental condition produced by the excessive use of quinine, as a defence of his act. Quinine, as has been shown by Kiernan (*Journal of Nervous and Mental Diseases*, July, 1881), may exceptionally produce insanity, but it can do so but rarely and only in persons strongly predisposed to insanity. A defence based on the plea of insanity from this cause should, therefore, be sifted with great care.—*Chicago Medical Review.*

Hydrophobia among the Dogs in New York.—For the first time since the establishment of the dog pound in this city, a case of hydrophobia has been found. It occurred in a half-Spitz dog, which was found on the streets, September 22d. The case was diagnosed at once by Dr. Ennery, veterinary surgeon. As stated by him, the dog showed very marked evidences of the disease. The animal was put in the dog cart, where he crept about slowly on his belly. The moment his nose touched anything, he would give a convulsive snap. He was evidently stone blind, and his eyes were deeply congested. The other dogs, as is usually the case, seemed afraid of him, and tried to keep out of his way, but he bit many of them before reaching the pound. The diseased animal was shot at once, and those bitten were drowned.

There is a prevalent error regarding the frequency of hydrophobia. This is the first case that has been found among forty-seven thousand dogs that have been drowned at the dog pound in the past five years.—*Journal of Compar. Medicine.*

Census of Medical Practitioners in this Country.—In the annual report for 1879 of the Commissioner of Education, Gen. John Eaton, just published, the following statistics are given:

"According to the census of 1870 there were, nine years ago, 62,383 physicians and surgeons in the country. The number of graduates reported to this office since 1873 is as follows: 1873, 2,391; 1874, 2,343; 1875, 2,391; 1876, 2,629; 1877, 2,911; 1878, 3,080; 1879, 3,271; or a total in the seven years named of 19,016. If to this number we add 2,000 for each of the years 1870, 1871, and 1872, a low estimate, we have 25,000 additions to the profession in ten years. This is much in excess of any proportionate increase in the population of the country and far beyond the loss by death in the profession. When we think of the numbers added without graduation, and even without preparation, the increase becomes appalling."

# Original Lectures.

## THE SLOW PULSE AND DISTURBANCES IN THE RHYTHM OF THE PULSE.*

By T. A. McBRIDE, M.D.,
NEW YORK.

A PULSE of 60 or less is usually pathological. Occasionally we meet with cases in which the pulse-beat in health is habitually below 60, but such examples are infrequent.

The following schema, taken from Dr. T. Lauder Brunton's book on the "Experimental Investigations of the Action of Medicines, Part I. Circulation," London, 1875, exhibits the causes of slow action of the heart as determined by experiment on animals, and if you will keep this before you, you will find that it will assist you in the explanation of many cases in which a slow pulse is observed:

A. Irritation of vagus roots: 1. Directly by the action of an excitant, drug, or pain. 2. Indirectly by increased blood-pressure. 3. Indirectly by increased $CO_2$ in blood. 4. Reflexly by irritation of some other nerve.

B. Irritation of vagus ends in the heart.

C. Increased excitability of vagus ends in the heart.

D. Weakness of the heart: 1. Paralysis of cardiac ganglia. 2. Paralysis of muscular fibres of the heart. 3. Degeneration of muscular fibres of the heart.

A slow pulse is a prominent or important symptom in the following pathological conditions:

1. *Fevers.*—In typhus, although the pulse, as a rule, ranges from 100 to 120, a slow pulse is not infrequently observed. Murchison reports cases in which the pulse was 28 to 40.† In such cases there is usually very great prostration, and the heart may be seriously affected by pathological changes which are common in this disease. In convalescence a slow pulse is very often present. It is well to bear in mind that in adynamic conditions the pulse-beat does not always correspond to every ventricular contraction. Often a pulse-beat at the wrist occurs only after two or three contractions of the ventricle have taken place.

In relapsing fever, although the frequency of the pulse is very great in the pyretic periods, yet in the intervals it is much diminished in rate.

"In the first half of the apyretic stage, however, the pulse usually continues a little above the normal standard, but for some days before the relapse, when the temperature has regained its normal height, the pulse is in many cases irregularly slow—often not exceeding 40 to 50; but assuming the erect position will sometimes raise it from 50 to upward of 100. The slow pulse is not due to slowness in the contraction of the heart, but to a prolongation of the pause."‡

2. *Diseases of heart and lungs.*—In attacks of syncope the pulse may fall to 20, and even lower, and continue at this rate for some minutes. In the early stages of endo- and peri-carditis a pulse of diminished frequency is sometimes observed. In most congenital affections of the heart, and particularly in the *morbus cæruleus*, a slow pulse is present. In fatty degeneration of the heart and in stenosis of the aortic orifice, the diminution in the rate of pulse becomes a sign of some importance in diagnosis and prognosis. In aortic stenosis the pulse is seldom lower than 50, and is small and incompressible. In fatty degeneration or Quain's disease it may fall as low as 30, or even 20, and a pulse of 10, with continuance of life has been observed. The pulse is small, gaseous, easily compressible. A slow pulse, with epileptiform seizures, has also been observed in cases in which fibrinous masses were found affixed to the walls of the ventricular cavity after death (Ogle: "Transactions Pathological Society of London for 1863," p. 89). Permanent slow pulse has likewise been observed to follow attacks of diphtheria, and the explanation offered for this has been the frequent occurrence of fibrinous masses in the heart, which become attached to the walls of the heart. Charcot, however, has suggested that in such cases some lesion of the medulla or cervical cord may be present.

In pleurisy, with abundant effusion, after the crisis of croupous pneumonia, in the early stages of gangrene of the lung, a slow pulse is often encountered. In all diseases of the air-passages, or of the lungs in which carbonic acid poisoning occurs, the pulse at first is slow, by reason of irritation of the vagus roots by this poison, but later the pulse becomes very much increased in frequency, from paralysis of the vagus roots by the increase of the poison in the blood. In pulmonary tuberculosis a rather frequent pulse is the rule, but sometimes the pulse diminishes in frequency, and Traube* states that this is a sign of bad import.

3. *Affections of the nervous system.*—In the first stages of cerebral hemorrhage and cerebral compression a slow pulse is of frequent occurrence, and may also be present throughout the attack, but usually, and especially when death is imminent, the rapid pulse succeeds.

In what is usually termed the second stage of almost all of the varieties of meningitis, the pulse is apt to be slow. Niemeyer† and Traube assert that if in the course of any disease with head-symptoms, the pulse should suddenly fall from a high rate, as 110 or 120 to 50, 60, or 70, suspicion should at once be directed strongly to the occurrence of a meningitis. The diminished frequency is most marked in basal, and especially in basilar meningitis, in which latter affection it may be 40, or less. In fractures of the cervical vertebræ, a slow pulse is common. Mr. Hutchinson‡ reports a case of fracture of the fifth and sixth cervical vertebræ, in which a regular pulse of 48 was observed. According to Gurlt,§ the pulse may fall as low as 36, and even to 20. Fractures of the first dorsal vertebra seem to be accompanied for a time also by this slowness of the pulse. The rule is for this slow action of the heart to be transitory, and to be replaced by a very great increase in the frequency, and this occurrence has usually a bad significance. The slow pulse may, however, continue for some time. In a case of Rosenthal's the pulse oscillated between 48 and 56

* A lecture delivered at the last Spring Course of the College of Physicians and Surgeons, New York.

† A Treatise on the Continued Fevers of Great Britain, by Charles Murchison, M.D. London, 1875.

‡ Murchison: Loc. cit.

* L. Traube: Die Symptome der Krankheiten des Respirations- und Circulations-Apparats. Berlin. 1867.

† Niemeyer's Text-Book of Practical Medicine, vol. ii., p. 2 7. New York. 1880.

‡ M. Hutchinson's London Hospital Reports, vol. iii., p. 366 1866.

§ E. Gurlt: Handbuch der Lehre von den Knochenbrüchen, p. 62. 1864.

for four weeks, and the patient, a child, aged fifteen, recovered. In certain cases of irritation of the cervical spinal cord by neoplasm, tumors, pachymeningitis, etc., a slow pulse has often been noted. Charcot * has observed three cases. In one the pulse was from 20 to 30. In such cases syncopal apoplectiform and epileptiform attacks frequently occur, and in the attacks the pulse may fall to 15 or 20. He also refers to a case in which there was a decided narrowing of the vertrebral canal near the occipital foramen, in which a slow pulse was observed. In melancholia a slow and feeble pulse is common. Spring † records a case with a pulse of 15. In migraine and hemicrania the pulse rate is low during attacks, as a rule. Lieving ‡ quotes Wollendorf as follows: "From the beginning and during the continuation of hemicrania the rate of cardiac pulsations is considerably lowered, the normal pulse-rate of from 72 to 76 to the minute, sinking to from 56 to 48 beats." Lieving also records cases of gastralgia, hysterical asthma, epilepsy with gastric aura, in which, during the attacks, the pulse would fall to 50 and lower; also cases of hiccough, in which the pulse-rate was so reduced as to be synchronous with the hiccough.

4. In the period of invasion of erysipelas, diphtheria, and some of the exanthemata; in scleroma neuratorum; in convalescence from gastro-intestinal catarrh; in scurvy; gout; in certain cases of malarial affection; in jaundice; in the attacks of lead colic; in ergotism; and lastly, in some cases of uræmic poisoning in the course of Bright's disease, a pulse of 50 and less is not infrequently observed.

*Rhythm.*—The disturbances of the rhythm of the pulse are those of intermission and irregularity.

*An intermittent pulse* is one in which a pause occurs between the pulsations, which is equal to the time occupied by one or more pulsations.

The intermittent pulse may be present in perfectly healthy persons, and may have always existed. Dr. B. W. Richardson has also shown that it may be produced in a man otherwise healthy, by grief, terror, anxiety, fatigue, pain, passion, adverse fortunes, etc. When it is the only peculiarity of the pulse it is not a sign of any great importance, although it is observed often in cerebral hemorrhage, and in cerebral compression from fractures of the skull, in tumors of the brain, in gout and syphilis. It is present often in dilatation and degeneration of the heart, but is then associated usually with an irregular pulse, especially if the patient moves about. The ventricle requires the stimulus of a greater quantity of blood before it will contract, and one, two, or three contractions of the auricle may occur before there is a pulse-beat. In this way, since varying quantities of blood are thrown into the arteries, irregularity of the pulse results.

*Irregularity of the pulse* is a much more important symptom by itself than the pulse with intermissions. The following are some of the diseases or conditions in which an irregular pulse is a sign of importance:

1. *Neurosal irregularity.*—The irregularity of the pulse, which is often very great, may be provoked by peripheral irritation, as dyspepsia, meteorism, worms, etc. It often occurs in hysteria and hypochondriasis, and in anæmia. With the irregularity there is often intermission of the pulse. In this form of irregularity—the neurosal—exertion, effort, or movements of the body of any kind, have but little effect upon the disturbed rhythm of the pulse. The irregularity and intermissions are not increased, and sometimes are even diminished. Irregularity and intermissions of the pulse, however, when dependent upon valvular disease and degeneration of the structure of the heart, are much augmented by the slightest movement. The exaggerated changes in the rhythm are accompanied by dyspnœa, palpitations, and often syncope.

2. *Irregularity of pulse in heart disease.*—In most diseases of the heart the occurrence of degeneration of the muscular substance is marked by the appearance of an irregular and intermittent pulse. There is a variety of valvular disease of the heart, however, in which the irregular pulse is quite constantly present, and without any degenerative change having occurred in the walls of the heart—mitral insufficiency. The irregular pulse is frequently present in cases of mitral insufficiency for years, and the pulse is called the "mitral pulse." Sometimes the irregularity of the pulse cannot be appreciated until the arm of the patient is elevated, and in this position the irregularity is readily noted.

3. *Syphilis.*—Fournier * has called attention to the fact that irregularity is of frequent occurrence in the secondary period of syphilis. It may be in these cases irregular to-day and regular to-morrow. It may be irregular in the morning and regular in the evening. It may be associated with the other phenomena of secondary syphilis, or it may occur without any other symptoms of the disease being present at that time.

4. Dr. B. W. Richardson † refers to two forms of irregularity of the pulse, which it is of importance to recognize: "Acute Irregularity in Time" and "Prolonged Irregularity in Time."

"Acute Irregularity in Time:" Each stroke is given in the correct order of succession, the one stroke to the other, but in series of five, ten, or other number of beats, differing in rate from other series. In cases of very feeble heart we often meet this condition; we meet it in anæmia, we meet it after loss of blood, and other states of depression.

"Prolonged Irregularity of Time:" This is a condition in which the pulse shall, during one minute, register, say 70, and if counted through a succeeding minute, 90 to 100 beats. This form of irregularity in relation of time is met with most distinctively in cases of acute cerebral diseases, especially in the hydrocephalus of children. In hydrocephalus, according to my experience, it is a fatal sign. I have never known an instance of recovery when, with other acute disease, this prolonged irregularity has been markedly present."

Our forefathers in medicine christened some of the pulses with disturbed rhythm, and I will mention the names of some of them as curiosities, although a few are worthy of remembrance.

a. *Pulsus deficiens, an intermittent pulse.*—Where one or more contractions of the heart are entirely wanting, and no pulsation can be felt in any of the arteries. Pulsus deficiens has also been applied to that pulse in which every beat seems as if it were the last.

* Lectures on Diseases of the Nervous System by G. M. Charcot, second series pp. 108–120; trans. by the New Sydenham Society. London, 1881.

† Symptomatologie ou Traité des Accidents Morbides, par A. Spring, tome 1er, p. 501. Paris, 1868–1872.

‡ E. Lieving: On Migraine and Sick Headache. London, 1873.

* Leçons sur la Syphilis, par A. Fournier, p. 894. Paris, 1873.

† Discourses on Practical Physic, by Dr. B. W. Richardson. London, 1871.

b. *Pulsus intermittens.*—An intermittent pulse, but only so because some contractions of the heart are too feeble to produce a pulsation at the periphery of the wrist.

c. *Pulsus intercurrens aut incidens.*—A pulse which feels as if between two equal and regularly following elevations a dissimilar one was interjected, or a pulse in which a superfluous pulsation seems to occur from time to time.

d. *Pulsus coturnisans.*—Two or more pulsations are compounded into forming a doubly or trebly compound pulse, as — ⏑ — ⏑, or — — — ⏑ ⏑, or ⏑ — — ⏑.

e. *Pulsus caprizans.*—One which seems to leap like a goat. An imperfect dilatation of an artery being succeeded by a stronger and fuller pulsation.

f. *Pulsus intricatus.*—One but little developed, and unequally slow.

g. *Pulsus myurus.*—A pulse that gradually becomes smaller and smaller, like a mouse's tail.

h. *Pulsus myurus reciprocus.*—A pulse which, after having become gradually smaller to a certain point, as gradually increases to its fullest size.

The pulses that I have enumerated thus far are curiosities in name and existence. They would be difficult to discover, and have no especial value in diagnosis. The pulses to which I now invite your attention have some value in diagnosis.

i. *Pulsus bigeminus, biferiens, aut bisiliens.*—Traube has called attention particularly to this form of pulse. It is characterized by two short beats, followed by a long pause. Each of the two beats corresponds to a heart contraction, in contradistinction to the dicrotonus pulse, in which a double beat corresponds to a single cardiac systole. Traube regards this pulse as one of bad import, and as indicating a fatal termination of the case.

j. *Pulsus alterans.*—A secondary form of the bigeminus. A weak pulsation follows a strong one, and the pause after the weak pulse-beat is longer than that preceding it. This is of bad import.

k. *Pulsus paradoxus.*—An apparently irregular pulse, which becomes smaller or entirely disappears on inspiration. This pulse is met with in excrescent mediastino-pericarditis, and is explained by traction of the sternum or ribs by bands or growths which compress the aorta. It may also occur in chronic pericarditis, and occasionally also in cases of stenosis of the respiratory tract. In these cases Bamberger explains the change in the pulse rhythm by the varying intra-thoracic pressure, and the amount of blood consequently in the vessels.

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A Case of Recovery after Twelve Minutes' Immersion is reported by Mr. Charles Pope *(Lancet)*. One reason for the recovery is believed to lie in the fact that the man's chest was kept pressed by weights, and thus the water was kept out of his lungs.

Birth-Marks.—The following good story is told of a physician of Dayton, Ohio: The doctor was recently attending a case of labor in the family of one of his patrons, who, though a very excellent man, is a little slow in the payment of his medical bills. Immediately after the birth of the babe, the father nervously asked: "Doctor, is the baby marked?" "Yes," quietly replied the doctor; "it is marked 'C. O. D.'"

The bill for that baby was promptly settled.

## UTERINE CHLOASMA, IN CONTRAST WITH ADDISON'S DISEASE.

By WILLIAM PEPPER, M.D., LL.D.,

Provost, and Professor of Clinical Medicine, in the University of Pennsylvania.

(Reported by Dr. T. H. Cathcart, Clin. Asst.)

Gentlemen—I will call your attention to-day to an obscure case sent to us for diagnosis, a case which has been very perplexing, and which, I am sure, will be of great interest to you. The patient, Jennie C——, is forty-one years of age, of Scotch extraction, and married. Her family record is good, free from any syphilitic, tuberculous, cancerous, or other taint; and there is no history of any exposure to unusual hardships or anxieties. She has never had any children. She always enjoyed good health until the onset of the present illness, which began twenty-one years ago, or one year after marriage, and without any apparent cause. It commenced with a feeling of general weakness, pain in the back and abdomen, and a profuse muco-purulent discharge from the vagina. The weakness did not cause her to go to bed, but made her indisposed to perform any active household duties. There was decided loss of flesh. Ten years later, the symptoms still continuing, but subject to periods of improvement and relapse, she noticed, for the first time, an arched band of bronzed skin on the forehead, and shortly afterward patches of the same color appeared on the cheeks and abdomen. With the appearance of this discoloration there was no alteration in the other symptoms, for the pain in the back and the sense of weakness were still felt, and the loss of flesh had not been regained. During the last ten years her condition has gradually grown worse. The weakness and emaciation have slowly progressed, the discoloration of the skin has become more marked, and the pain in the back more intense. In addition to these, she has suffered during the last eight months from several attacks of palpitation of the heart, and has fainted a number of times without any apparent cause. The weakness complained of has been greater at some times than at others, and has presented remarkable fluctuations, but always with a tendency to become worse. The periods of weakness would come on without any evident cause, and would generally last three days.

The emaciation has been subject to no fluctuations, but has been steady and progressive. The appetite and digestion have been poor, the bowels occasionally loose, but not sufficient to produce the weakness and wasting.

Careful examination of the patient yesterday disclosed no disease whatever of the nervous system, nor any sign of any pulmonary lesion. The heart is healthy, the pulse moderate in frequency and strength. The lymphatic system presents nothing abnormal, and the liver and spleen are of natural size. The urine is acid in reaction, with a specific gravity of 1.017, and is free from either albumen, sugar, or any deposit. The uterus is enlarged, congested, and retroverted. Its cavity measures three inches in length. The left ovary is prolapsed, and lies behind the body of the uterus. The catamenia are regular, last three days, but are attended with pain. The blood, as drawn from her finger and examined by my assistant, is paler than usual, from diminution of its coloring matter; but an enumeration of the blood-corpuscles with a hemacytometer, shows one cubic millimetre of blood to contain 4,450,000 red cells, and 1 white cell to

224 red ones, which, you know, is about normal. The discoloration of the skin is quite evident. There is a bronzed arch on the forehead and patches of like color on the cheeks. The backs of the hands and forearms are also discolored. These patches, the patient says, vary in shade from day to day, and are separated, you see, from the naturally colored skin, by a distinct line of demarcation. There is no discoloration in the axillæ, nor around the nipples, nor at the flexures of the joints. Lastly, there is decided weakness and emaciation.

I have been especially particular in detailing these symptoms, gentlemen, because you will appreciate their value and importance when we endeavor to arrive at a diagnosis. The case is, as you no doubt perceive, an obscure one, and yet upon its correct diagnosis will, of course, depend the treatment to be pursued, and the amount of good that we can do our patient.

The discoloration of the skin is the sign that would first attract your attention, and this, in conjunction with the progressive weakness and emaciation, would immediately raise the query, Have we to deal with a case of Addison's disease? But you should be aware, gentlemen, that a like discoloration of the skin sometimes occurs in chronic disease of the liver, spleen, stomach, uterus, intestines, or peritoneum, due to long-continued irritation of the abdominal sympathetic centres. Hence, in a case such as the one before us, we should be careful to search for the existence of any local irritation of the abdominal organs, to study the progress of the disease, and to analyze most minutely the various symptoms present. Addison described the disease which now bears his name, as a progressive, idiopathic anæmia, accompanied by general languor and extreme debility (but without much loss of flesh), and by a bronze discoloration of the skin. The heart's action he stated to be remarkably feeble, the pulse weak, much shortness of breath to occur on the slightest exertion, and death to result from asthenia in the course of from one to several years. It is a disease essentially of the suprarenal capsules, bodies without any definitely known function. They become the seat of a chronic inflammation, are enlarged, and later undergo a cheesy degeneration, and their capsules thicken.

Lying in close contact to the semilunar ganglia and their nerve-prolongations, a constant irritation of these great centres is produced; and it is by reference to the long-continued irritation of their numerous and varied plexuses that the different symptoms, such as pigmentation of the skin, palpitation of the heart, dyspepsia, breathlessness upon exertion, etc., are to be explained. The cheesy mass may also act as a centre of infection, and occasionally tuberculosis may result.

Having given the symptoms of Addison's disease, let me again direct your attention to the case before us, so that we may compare the two, and see in what they agree and in what they differ. The bronzing in the patient here is not uniform or diffused, but is separated from the naturally colored skin by distinct lines of demarcation; it has not progressed, and there is no discoloration around the joints, umbilicus, genitals, or armpits. It is true that, in cases of discoloration of the skin due to chronic disease of the abdominal viscera, it is usually limited to the face and abdomen, and does not, as in this instance, occur on the hands. But this is not a constant rule. I have known almost universal bronzing of the skin to attend chronic peritonitis, without any disease of the suprarenal capsules; while, on the other hand, in the present case there are no purplish spots on the mucous membrane of the mouth, and no bronzing about the genitals or in the flexures of the joints. The latter points are of value as being unlike what are apt to occur in true Addison's disease.

The feeling of debility has not been so extreme as in the latter disease; the tendency to palpitation of the heart has been very slight; and the gastric disturbances have been very mild. Lastly, the patient has chronic endometritis with prolapse of an ovary, with which condition there is often associated such irritation of the abdominal sympathetic ganglia as to prove the source of weakness and debility.

Progressive, causeless, and irregular debility (not accompanied with marked loss of flesh) is the most prominent symptom of this peculiar disease of the suprarenal capsules. The prostration and loss of muscular power cannot be explained by any functional disturbance that a patient may present, nor will diligent inquiry find any special lesion as a cause of the constitutional change. It seems that in the case before us we can develop a debility not due to any organic disease except a chronic endometritis with prolapse of an ovary. Now, in some women, a slight uterine catarrh will produce marked debility and disturbance of health, whereas in others a more serious disease of the womb will cause no bad symptoms whatever. Again, we have the weakness in our patient, accompanied with emaciation, while in Addison's disease the latter is not at all commensurate with the former. In Addison's disease we usually have vomiting, dyspepsia, or other symptoms of a disordered condition of the stomach; but in this case, although there has been some irritability of the stomach, it has been very slight, and the uterine condition is sufficient to explain it. Palpitation of the heart, feeble pulse, and breathlessness upon exertion, have not been at all prominent in the present case, as they are in disease of the suprarenal capsules; and those attacks which have occurred the morbid state of the uterus could readily produce. I would ask especial attention to the analysis of the blood in this case. The state of this fluid differs greatly in different cases of Addison's disease. As will have been seen, Addison regarded the disease as essentially one of progressive anæmia; and so in some cases there is a very marked degree of anæmia, probably due to some deteriorating influence exerted by the focus of degenerating exudation and to the reflex disorders of digestion. But in other cases the force of the disease expends itself on the nervous connections of the suprarenal bodies, and the composition of the blood undergoes but little change. Hence it is evident, that no diagnostic importance can be attached to the absence of anæmia in the present case. Lastly, the course of Addison's disease extends over a period of from two to five years, while the woman before you has been ill twenty-one years.

The case, gentlemen, you perceive is not clearly defined, but lies, as I may say, on the border-line. I think, however, that from the careful analysis and differentiation of its history, symptoms, and progress which we have made, we are safe in considering it as one of uterine chloasma with debility, due to chronic endometritis and prolapse of an ovary.

The prognosis, therefore, is favorable, and the woman will be benefited by local treatment applied to the womb, for which purpose she will be placed under the care of my colleague, the Professor of Gynecology. In addition to this, careful attention must be paid to her diet and mode of life, and in-

ternally a course of ferruginous tonics must be directed. Among the best of these would be:

℞. Acid. phosphorici diluti,
Tr. ferri chloridi.....aa f. ʒ j.

M. Sig.—Twenty to forty drops in a wineglassful of water, through a glass tube, three times daily, after meals.

Or,

℞. Elix. ferri pyrophosphat., quiniæ et strychniæ .....f. ʒ ij.

Sig.—Teaspoonful after meals, in water.

Hence, you see the importance of a correct diagnosis in such cases.

In Addison's disease there is no direct line of treatment, as we have no means by which we can influence the morbid process in the suprarenal capsules, and our remedial measures are consequently only palliative. I will merely indicate the leading ones. They are as follows:

*First.*—Rest. Especially during the periods of intense weakness, which occur at irregular intervals through the course of the disease.

*Second.*—Regulation of the diet. Only nourishing and easily assimilated food, such as milk, soups, eggs, farinaceæ, and oysters, should be allowed.

*Third.*—Counter-irritation over the region of the suprarenal capsules by irritating liniments and dry cups; but, best of all, by the actual cautery.

*Fourth.*—Electricity—either the faradic or galvanic current may be used.

*Fifth.*—The use of alteratives. Minute doses of bichloride of mercury, iodide of potassium, nitrate of silver, and arsenic, have seemed to do good. Cod-liver oil, iron, extract of malt, and the hypophosphites, may be used to influence nutrition, but exert no influence over the morbid process proper.

*Sixth.*—All specifics are without value.

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Tincture of Iodine and the Chloralated Tincture.—After Coindent had first employed the alcoholic tincture of iodine in goitre, many were the applications of this remedy, but to Bonelli credit is due for pointing out its indications. The tincture of iodine stands foremost in the list of immediate external coagulants and remedies provoking adhesive inflammation in closed cavities.

Injections of iodine may bring about a cure as well by first as by second intention. The former takes place when cure results from one injection, as in ascites, hydrocele, etc.; the second when several injections are necessary, as in hygroma, atheroma, and cold abscesses.

Carlo Pavesi, to further increase the therapeutical powers of the tincture of iodine, adds to it chloral, which dissolves in it without decomposition.

The resulting preparation has the property of being miscible with water without precipitating. The proportions of its ingredients are:

| | |
|---|---|
| Iodine (very pure) | parts 20 |
| Chloral hydrate | " 30 |
| Spirits of wine, strength 36 | " 140 |

The solution should be filtered, and kept in an emery polished bottle. The liquid is of pure golden hue, soluble in water, and has an odor and taste which indicate its ingredients.

The chloralated tincture of iodine, on account of its marked coagulating powers over albumen, is an excellent hæmostatic, and very useful in the treatment of large wounds as an antiseptic and hypnotic. —*Lo Spallanzani.*

# Original Communications.

## THE CAUSES OF FAILURE IN OBTAINING UNION IN OPERATION WOUNDS, AND ON THE METHODS BEST CALCULATED TO SECURE IT.

Being Remarks made in a Discussion of the Subject before the Section of Surgery of the International Medical Congress.

By the late Prof. WM. WARREN GREENE, M.D.,
Portland, Maine.

Mr. President and Gentlemen: In the discussion of this question of the healing of wounds, than which, in my opinion, none of greater importance has occupied the time of the Surgical Section, the great need is the expression of individual conclusions and opinions from those whose experience and observation has been sufficient to give their deductions weight.

There is no time, nor is there any need, in a presence like this, to argue those points that have been presented in the able papers just read.

In the first place, sir, I desire to be clearly understood as to my position with regard to "Antiseptic Surgery." It has come to pass, accidentally, no doubt, that if a surgeon does not accept, in all its details, the method of dressing of wounds known as "Lister's Method;" if he does not use the spray, and carbolic acid solution for the spray, and all the other elements in Professor Lister's dressing, he is counted as opposed to, or, at least, as not practising, antiseptic surgery. All through the discussions in this body during the past week no allusion, in my hearing, has been made to *antisepsis* in surgery except under the name of Listerism. And every member will bear me witness, that whenever the details of that method have been alluded to, *carbolic acid* and *the spray* have been almost the only elements spoken of, and the only ones emphasized.

Now, sir, I protest most emphatically against being placed in any such false position. It is very much like calling a man an allopathist simply because he is not a homœopathist. I believe no thoughtful surgeon to-day denies the value, the desirability of the most perfect antisepsis, and, better still, asepsis possible. But the question with us all is, how best to fulfil these conditions or attain to them with the greatest safety to our patients. I suppose we have all been trying to solve this question; each in his own way. During an active practice, which for fifteen years has been very distinctly surgical, I have gradually been led to the following conclusions:

*First.*—That wounds are more certain to heal by first intention if thoroughly excluded from the air; and that for such exclusion fine cotton-wool, absorbent or not, according to circumstances, is the best agent.

It is true that superficial wounds, like those for removal of cancer of the lip, or for closure of hare-lip, heal perfectly well, if nicely apposed, with no artificial dressing whatever. But nature teaches us a lesson in all these cases by immediately furnishing such a covering of blood and lymph, as when dried is perfectly air-proof. And I am sure that all important wounds, like those of amputations, excisions, the removal of large tumors, and similar operations,

do best when covered in from atmospheric contact. For such purpose the finest quality of cotton-wool is the best of any substance that I have found. It is light, elastic, and practically air-tight, for in a few minutes after it is applied to the closed wound it adheres to the surface by the drying sero-lymph that it absorbs.

Again, if you assume the *germ theory*, Professor Pasteur long ago proved that cotton-wool is a perfect filter for all germs or spores that may exist in the atmosphere.

*Second.*—That thorough drainage is an important element in the best dressing for healing by first intention.

It is true that if you, by accurate apposition of the flaps and the thorough exclusion of air, immediately put the deeper parts in the condition of a subcutaneous wound, the tissues will very often take care of serum, etc. And, as Mr. Keith has said, in speaking of peritoneal surgery, each case must be taken on its own merits. After perfect cleansing, and perfect control of hemorrhage, just so far as we secure accurate coaptation of the parts, so far we do away with the need of drainage. But where we must leave cavities, union is facilitated by proper drainage. I think this matter is being overdone, however, by many enthusiastic followers of Chassignac using tubes so large and retaining them *in situ* so long that they, acting as foreign bodies, hinder the simple processes of nature.

For this purpose I prefer hair-drains whenever applicable, as in small or superficial cavities, as after removal of tumors, excision of the mamma, and in amputations. I speak, of course, of *primary* drainage—for the removal of the bloody serum that flows directly after the wound is closed. After intra-peritoneal operations, when needed, I prefer glass or decalcified bone. Rubber-tubes I dislike for any purpose. True enough, they will often serve. So would almost anything. But they are too soft to withstand the compression from the dressings, and too frequently become clogged and seriously filthy.

*Third.*—That whatever be used for cleansing the parts during any important operation, whether by sponging or irrigation, and whether pure water or a solution of any medicinable substance be employed, it should be of the same temperature, or a little higher, than that of the body.

I was exceedingly interested in the statements of Professors Buchanan, Royet, and others, made, recently, as to the value of maintaining the normal temperature of the body during abdominal section for any purpose. I believe that in years gone by I have lost several patients from failure to do this. The importance of this point grows upon me constantly with reflection. I mean the importance of *more powerful measures* than the heat of topical applications. But every gentleman present, and there are several of my former colleagues who are familiar with my practice, will bear me witness that I have long recognized and applied the principle locally. I try to avoid all chilling the parts, and prefer the styptic influence of hot to that of cold applications.

*Fourth.*—That for the control of hemorrhage ligatures of some animal material, rendered as aseptic as possible, are best, and that they should be used so freely as to make the wound dry, so far as hemorrhage proper is concerned.

What the material for ligatures will be in the future is doubtful. I was surprised to hear Dr. Marcey's testimony in favor of the caribou's tendon, for last winter I tried to split up the tendon of our common deer (*Cervus Virginianus*) and failed to get such nice parallel division as he reported. But whether catgut or some other material properly prepared will be the ligature of the future, I am inclined to think it will be animal.

To the final dressing I have already referred in my first proposition.

As to Professor Lister's method, or what has come to be generally called Listerism, I have to say that the elements of the greatest possible cleanliness, the use of animal ligatures, thorough drainage, and protection from atmospheric contact, have my most hearty endorsement, and I have for a long time employed these agencies. And I believe that in estimating the value of the systems *as a whole, these several parts have been entirely under-estimated*, the spray and carbolic acid having taken the larger share of the credit.

I object to the spray, because I deem it wholly unnecessary. The parts involved, as well as the hands and instruments, can be kept completely moist with any antiseptic solution that may be employed.

It is not only, in my opinion, unnecessary, but its use, as practised by Professor Lister, involves not only at the time of operation, but in the often very early and frequent subsequent dressings, an amount of detail and finessing that is hardly practicable for a surgeon in a large private practice.

Again, I most positively object to carbolic acid. I have seen no evidence that an agent in solutions so powerful that in prolonged operations the surgeon's hands become stiff and numb for days, as has happened to myself, and to several gentlemen in this room, is a proper or safe one to apply to large exposed surfaces. On the contrary, I have seen much of carbolic acid poisoning; and I am very sure that the profession generally are not aware of the extent of this evil, especially in exciting disease of the kidneys. It has not been looked for.

So I was not surprised, as some of you were the other day, at Professor Keith's statement, that for four months past he had abandoned the use, not only of the spray, but of carbolic acid, relying, as he says he does now, upon simple cleanliness, care about hemorrhage, and thorough drainage.

Now, sir, in America the success of Professor Keith as an ovariotomist since he began to use Listerism—and no one denies the thoroughness of his application of it—has been the *capital illustration* made use of by those who look upon the "Lister method" as the only true antiseptic treatment or proper treatment. And his statements only show how careful we must be to keep such broad questions open; how long, and large, and discriminating observation is necessary before we can settle down upon fixed conclusions. What does he say? I read from the notes that I took of his slowly, modestly uttered words. "True," he says, "I did have eighty successive recoveries after ovariotomy." "But too many of those came near dying." "I found a large number of cases having high temperature—105°, 106°, 107° Fahrenheit—the evening following the operation, and many cases of renal disturbance. But while I had this remarkable succession of recoveries, that, *stopping there*, would be a wonderful statistical showing, *out of the next twenty-five I lost seven*; one of acute septicæmia, in spite of the most perfect antiseptic (Lister's) treatment; three others of kidney disease—one of hemorrhage—that were undoubtedly due to carbolic poisoning. For four months past I

have abandoned the so-called antiseptic plan, and I am getting better results; am having less trouble than when using it. I look upon perfect drainage in proper cases as indispensable." And neither you, Mr. President, nor you, gentlemen of the Surgical Section, will soon forget the significant silence for a few moments after these statements, before the Professor—realizing the importance of this testimony, knowing that he had been quoted the world over as a most devout disciple of Lister, and as a man whose every statement stood unchallenged for truth and honesty—finally said: "I have felt it my duty, gentlemen, to make these statements, *because they are true*," and sat down.

I am inclined to think that, at least in the atmosphere of large hospitals, especially old ones, and, indeed, *perhaps*, generally in private practice, it is best, though in private practice not absolutely necessary, to use some article in the water used for sponging or irrigation that is antiseptic and indeed germicidal. For some time I have used boracic acid, in saturated watery solution, for this purpose, and have been well pleased with it. For although we talk about pure water a great deal, it is very rare, unless it has been recently boiled and is much more likely to be the medium of access of bacteria to the wound than air-dust. Again, all this class of articles seem to have *some* quality which renders tissues less prone to inflammation. How? is the question. Whether as germ destroyers or by some inhibitory influence by chemical action, which latter I think more likely, I feel sure such quality exists. But carbolic acid, over which the profession has gone wild, is not a germicide. It does not destroy bacteria; it paralyzes or anæsthetizes them *while applied*. But let the fumes pass off, and they recover and become as lively as ever. But there are true germicides that in potent strength lack the unfortunate qualities of carbolic acid—alcohol, chlorinated soda, salicylic acid, boracic acid, permanganate of potash, ozone; these are familiar illustrations. Offensive or irritant qualities are no evidence of therapeutic power in a substance, nor is the lack of such quality evidence of inertness.

One thing, however, must be said for carbolic acid. It is a prophylactic against inflammation, and a useful remedy in certain painful inflammatory and ulcerative processes. But it is too energetic for application to raw surfaces.

As I said in the beginning, this is a time for the statement of facts within our knowledge and of individual opinions based thereupon. So, to conclude, let me say, that so far as the local management of wounds best calculated to secure union by first intention is concerned, I at present prefer the plan I have indicated, *keeping the whole question wide open for any new light in the future.*

I have not alluded to, but we must never forget, the all-important matters of the patient's surroundings, and of constitutional conditions and treatment.

*First.*—The greatest possible cleanliness in every respect from first to last.

*Second.*—The use of aseptic animal ligatures in sufficient numbers to control *all* hemorrhage.

*Third.*—Thorough drainage, used with discrimination as to different methods in different cases and as to time of retention of drain.

*Fourth.*—The maintenance of the normal temperature of the parts during the operation. For which purpose use warm water—better to have been boiled—with some such article in solution of germicidal strength, as chlorine, boracic acid, salicylic acid, etc.; although I do not consider this last recommendation absolutely essential, especially in private practice.

*Fifth.*—Accurate, firm apposition by a *sufficient number* of sutures of some non-irritating material, such as hair, perfectly waxed silk, or metallic thread.

*Sixth, and finally.*—The perfect covering of the parts with light compresses of pure cotton-wool supported by proper bandages. Where there is to be much oozing, absorbent cotton should be applied next to the surface to take up the contents of the drains. Otherwise, nice wadding is sufficient.

Before closing, I wish, while I cannot accept all the details of his method, to bear hearty witness to the good effects of Professor Lister's work upon modern surgery.

The attention of the profession has been called, as never before, to the practice of *cleanliness* and *care*—care about drainage, hemorrhage, etc. Especially has the beneficence of his teachings and example shown itself in large and old hospitals. The air is kept purer, everything is done more neatly and carefully in the way of dressing. All praise and honor for this. And if the learned Professor, who himself is to close this discussion, shall be able to show us the need, on the one hand, and the safety, on the other, of those elements in his system to which I have objected, no one will be more glad to be convinced of the truth than I.

## ONE MODE OF IMPROVING COW'S MILK FOR HUMAN FOOD.*

By E. F. BRUSH, M.D.,

FELLOW OF THE N. Y. ACADEMY OF MEDICINE, MEMBER OF THE WESTCHESTER COUNTY MEDICAL SOCIETY, ETC.

Milk must be considered as an artificial product, not designed by nature to be taken from the animal by any other means than suction by the mouth of their young; therefore, we are impelled to improve the animal by all possible means to sustain the unnatural production. Naturally the cow suckles her calf two or three months, when the flow of milk ceases, the animal again becomes pregnant, the energy that was directed to the mammary gland returns to the uterine, and when gestation is complete it returns to the mammary gland again. But, after generations of breeding for this special purpose, the cow has come to allow herself to be milked by human hands from the time she drops her young until within a few days, or, at most, a few weeks of her next occurring parturition. We know that the first milk-colostrum is an active cathartic, a fluid totally unfit for human food. It undergoes putrefaction very rapidly, and is in every sense a dangerous diet for any but the young of the animal producing it, and even by them it can be ingested in harmful quantities. I have called attention to the fact, in an essay read before the County Society, that this colostrum is mixed with milk in many of the large dairies, and there is no law existing to my knowledge forbidding it.

It is also known that, in a given time after the cow has calved, and while still giving milk, sexual heat returns, and if the animal does not become pregnant the condition returns every three or four weeks. During this period the milk is quite unlike that of

*Read before the Yonkers Medical Society, October 7, 1881.

other times, and dairymen have learned from experience that it is unfit for the making of butter or cheese. Mr. Willard, a practical cheese-maker, says of it in a recent agricultural report: "The milk of cows in heat does sometimes play queer pranks with cheese. You will remember that I suggested this to be the cause of the trouble in the three cheeses which we saw at Frazier's factory made from one vat of milk, which Mr. F. said could not be properly cooked. I have had it occur in my own dairy, when several cows were in heat at the same time, when the weather was hot and the animals were more than usually excited. In the worst cases I have attributed it not only to the milk of animals in heat, but aggravated by that of those which became sympathetically excited and exercised and feverish in consequence of the cows which were in heat. Milk at such times is feverish and akin to a mass of putridity, and not unfrequently a fetid or very offensive odor is emitted from the whey and curd if used for cheese-making. Such milk will no more produce solid curd than it would give health or nourishment to a calf when taken into its stomach. When made into cheese, there is a tendency to undue fermentation and rapid decomposition, and its character is precisely similar to cheese made with putrid rennet."

Men might go on indefinitely selling this variety of milk for the nourishment of infants, and never discover that it spoiled them, unless, like cheeses, they were to be sold for a certain price if they reached a given age. You will bear in mind, gentlemen, that this variety of milk is produced usually during the hottest part of the season, when infant mortality is greatest.

The mammary gland is not an excretory organ through which matter already existing in the blood is filtered, but it is really a growing plant, and milk is the result of its growth; or, in other words, a watery transformation of the gland itself. Therefore, the production of milk depends on the development of the gland. Now, as the gland commences its work naturally when the uterine organs have completed theirs, and *vice versa*, the inference is they cannot properly work together, and such is the fact. Milk taken from the cow during pregnancy cannot be wholesome. You never allow a mother to nurse her child if she becomes pregnant. The cow also refuses suck to her calf when pregnant. In dairies where the production of milk to be sold unmanufactured is the aim, one great cause of loss is the sometimes abortion of every cow in the herd, and this, by good authority in agricultural matters, comes from the too close milking of the animals during their pregnancy—*i.e.*, milking them as long as they give a pint of milk. The product, under these circumstances, cannot, by any possible reasoning, be considered healthy, and yet thousands of gallons of such milk is sold for human food.

Now, the aim and object of this paper is to point out a procedure by which all the above evils can be avoided. I do not claim any originality for my proposition; but I will say that heretofore the spaying of milk-cows has been proposed as a money-making scheme—not, as I propose it, a life-saving procedure. And I hope, when we come to understand this subject of cows' milk for human food, and, as medical men and guardians of the public health and occupying the position we ought, viz., proposers of laws regulating production, care, and sale of milk, the law shall be that no milk sold for human food shall be other than the product of healthy spayed cows.

As I have repeatedly observed, the laws now existing in this State relating to milk seem to have been framed almost entirely by corporations. I can detect nowhere the work of scientific health-guardians, and the simple fact that health authorities, as they exist now, confine their whole scientific energy to throwing away what they claim to be watered or skimmed milk indicates that the subject has been neglected. In studying up the subject of spaying cows, I find a Mr. Winn, an American farmer, was the first to practise the removing of the ovaries from milk-cows. He made just claims of the advantages following the operation; but no one else seems to have practised it in this country. It was next advocated by Levrat, a veterinary surgeon in France, who wrote a treatise on the subject, claiming that it increased the flow of milk one-third, caused the supply to be constant and unvarying in quality, exempted the animal from the accidents accompanying the period of heat and risks and accidents during gestation, and much more easily fattened after they became useless as milkers. Next Régère, also a French veterinary surgeon, gave the subject attention for some time, and arrived at nearly the same conclusions as Levrat; and at the present time the practice of removing ovaries from milk-cows seems to be confined chiefly to certain parts of France and Switzerland, and it is practised not with the view of improving the quality of milk as a food, but to increase the production of butter and cheese. Never since Mr. Winn's time, to my knowledge, has it been practised in this country. Some standard agricultural works allude to the subject, but none that I have found advocate it.

Of course, like every radical change, one can understand why it has not been more generally practised. Farmers, as a class, are the most conservative, and the operation involves considerable trouble, and would appear to involve considerable risk; but I have been unable to find a report of a single death following the operation. If it were generally observed, other good results than the improvement of milk would follow. The practice dairymen observe, in disposing of their old and useless cows, is to allow them to run dry, become pregnant, and then fatten them for the butchers; as has been observed, they will fatten more rapidly under these circumstances. Last fall I saw twenty such animals slaughtered, and I confess the meat did not bear a wholesome appearance. From the butcher I learned that these animals cannot be killed in the summer time, as the meat will not keep dry enough to be disposed of. Of course this operation would limit the supply of veal, and bobbed veal would become extinct. It would not interfere with the supply of milk cows, because it would be necessary only to have spayed cows for the supply of milk in large towns and cities, and it is a well-known fact that within thirty or forty miles of a good veal market, which large towns furnish, very few calves are raised, because milk is the consideration. Charles L. Flint, author of "Milk, Cows, and Dairy Farming," Secretary of the Massachusetts State Board of Agriculture, etc., says: "And in milk dairies still nearer large towns and cities they (the calves) are hurried off at one or two days, or at most a week old."

It is unnecessary to describe the operation, but an essay on the subject will be found in a treatise on "Milch Cows," by M. Francis Guenon, translated by N. P. Trist, late United States Consul at Havana. published by the Orange Judd Company. When our milk supply is derived from spayed cows, as it should

and will be, it will be possible to obtain milk from animals without performing the reproductive act. Of course, reasoning from the knowledge we now possess, a heifer spayed would not give a large quantity of milk, because a cow does not give her largest amount of milk until her sixth calf, and those who have advocated spaying have advised it to be delayed until this period; but it might be possible that, if the animal's reproductive organs were in a quiescent state, the improvement might go on for the six years just the same, or, in other words, the improvement in milch cows may not be due to utero-gestation, but may simply be that it requires six years of milking to develop the mammary glands. If this is correct (which experience only will prove), then I can see the cow of the future being spayed when a calf, just as a young bull is castrated to be fattened for the slaughter.

## THREE TWIN LABORS IN ONE DAY.

By G. H. BALLERAY, M.D.,
PATERSON, N. J.

The occurrence of three twin labors in one day in the practice of the same accoucheur is an event so rare as to be deserving of record, and as each of the cases presented certain features of interest, I hope that a short report of them may not prove uninteresting to the readers of this journal who are engaged in the practice of obstetrics.

Case I.—Was called, May 14, 1873, at 10 P.M., to see Mrs. M——, primapara, aged twenty-four. The patient was a very tall and moderately stout woman. The abdomen was enormously enlarged; the os uteri almost fully dilated; the presenting head in the pelvic cavity and in the first position (L. O. A.); pains recurring regularly, but not very severe. 12 M.—Os uteri fully dilated; membranes ruptured; pains somewhat increased in force.

May 15th, 3 A.M.—Pains of considerable severity have recurred regularly since midnight, but are now becoming less frequent, and seem to have less force. As there was no evident obstacle to delivery, the pelvis being roomy and well formed, and as the delay seemed to arise solely from the inefficiency of the uterine contractions, one drachm of Squibbs' fluid extract of ergot was given. 4 A.M.—No advance; pains not increased in force or frequency by the ergot; considerable caput succedaneum; vagina rather dry; pulse somewhat accelerated; lips dry; thirst considerable; patient getting discouraged. The straight forceps were applied (without an anæsthetic), and the patient delivered of a large, living male child. The child having been handed to the nurse, I placed my hand upon the abdomen of the mother and discovered that there was another fœtus in utero. Vaginal examination failed to find any presenting part. External examination revealed the presence of the head on the left side of the mother's abdomen. Pushing the breech upward with my right hand and the head downward with my left, I was gratified to find, on vaginal examination, that it (the head) was lying directly over the pelvic brim. Maintaining it there by supporting the breech with one hand on each side until the woman had had five or six pains, I again examined per vaginum, and found the head well engaged in the superior strait. I now ruptured the membranes, and the uterus contracting on the body of the child, forced the head rapidly through the superior strait into the pelvic cavity. Confidently expecting a speedy termination of the labor, I directed that preparations be made for the reception of the new-comer; but I was disappointed. As soon as the head reached the point in the pelvis at which the head of the first child became arrested it ceased to advance, notwithstanding that the pains were quite strong and expulsive in character. After waiting an hour, and finding that there was no progress made, I gave a dose of Squibbs' extract of ergot to forestall hemorrhage, applied the straight forceps, and extracted another healthy, living male child. The uterus was made to follow the child by pressure exerted upon the fundus by the nurse during the extraction. The womb being well contracted, I passed two fingers into the vagina, and finding one of the placentæ there, I removed it. The other was protruding through the os uteri, and was easily removed by hooking a finger into its edge and extracting it.

After the patient had been bandaged and made comfortable, I remained an hour with her, fearing that post-partum hemorrhage might occur from relaxation of the uterus. At the end of that time, however, as there had been no hemorrhage, and the pulse was good, I was about to leave, when, on going back into the room to feel her pulse, I found it very frequent and feeble, and on turning the bedclothes aside I found a pool of blood in the bed, and saw that it was coming in a stream from the vulva. Placing my left hand upon the uterus I found it relaxed, the fundus reaching midway between the umbilicus and ensiform cartilage. Quickly passing my right hand into the uterus, I emptied it of clots; and ice being at hand I introduced some into the cavity of the uterus and also applied some over the uterus externally, firm pressure being at the same time exerted upon the fundus and sides of the uterus by my left hand and both hands of the nurse. These measures controlled the bleeding, but as the patient was considerably exhausted, I remained with her an hour and a half longer, stimulating her and keeping up pressure upon the fundus uteri to prevent relaxation of the organ and further loss of blood. The patient rallied well, and convalescence was so rapid that she was up and about the house on the twelfth day. The children were enormously large for twins—the first child weighed ten pounds and three ounces, the second nine pounds and seven ounces.

Case II.—Was called, May 15, 1873, at 8.30 A.M., to see Mrs. L——, a primipara, aged twenty-five, who was supposed to be in labor, although only in the eighth month of pregnancy. I found the labor far advanced; os fully dilated; head in pelvic cavity; membranes bulging during a pain; perinæum not rigid. The woman's lower extremities were very œdematous and her face puffy. I ruptured the membranes, and in fifteen minutes the patient was delivered of a living male child, which had evidently reached the eighth month of intra-uterine life. As the breech and lower extremities were passing into the world, with my left hand upon the fundus uteri I recognized the presence of a second child within the uterus, and very imprudently informed the mother of the patient of the fact, in the patient's hearing. The patient gave vent to an exclamation of horror and added, "then I will die," and immediately went into a violent convulsion. The convulsion was not hysterical, but had all the characteristics of the puerperal-uræmic convulsion. After the convulsion passed off, the patient gradually returned to consciousness, or rather to a condition of semi-consciousness.

I then made a vaginal examination and found the head presenting in the fourth position (L. O. P.). About twenty minutes after the first convulsion, a second occurred, followed in twelve minutes by a third, without any return of consciousness in the interval between them. After the third convulsion I found the membranes ruptured, and the head rotated with the occiput in the hollow of the sacrum. I hastened to my office for chloroform and instruments, and meeting my friend Dr. Blundell on the way, requested him to come and give the chloroform for me, which he kindly did. I applied the straight forceps and delivered the woman of a living female child, of about the same size as its twin brother. The delivery was so easy as to necessitate but the slightest traction, which was exerted with the right hand only, the left being used to protect the perinæum, which entirely escaped injury. The afterbirths were found detached and were removed without difficulty, and the uterus contracted well. The patient had no convulsions for an hour and a half after delivery, but at the end of that time they returned with increased violence, and bid defiance to all the measures adopted for their control.

My services being imperatively demanded elsewhere, my friends Drs. Blundell and Amiraux took charge of the case for me, and all that science could suggest was done for the relief of the patient, but she sank, and died at 5 P.M. I had known this patient previous to her marriage, and believed her to be the subject of chronic Bright's disease, although I had never been called upon to treat her professionally. She had, in the most marked degree, that peculiar and characteristic appearance of countenance so frequently observed in those who are the victims of chronic renal disease. Although this patient had anasarca, and a specimen of the urine, withdrawn by the catheter previous to the application of the forceps, became perfectly solid on the application of heat and nitric acid, yet I believe that if it had not been for my imprudence in abruptly announcing the presence of a second child in utero, when the patient was mentally congratulating herself upon the termination of her sufferings, she might not have had convulsions.

This is the second case in which I have known fright or mental shock to act as an exciting cause of puerperal eclampsia. In the other case, the woman, a primipara, had nearly reached the end of the ninth month of pregnancy, and had anasarca and albuminuria. She was suddenly informed of the death of a friend, who, singularly enough, had died of *puerperal convulsions*. She immediately began to tremble, and complained of feeling faint. She was helped to the sofa, and in a few minutes complained of pain in the head and flashes of light before the eyes. In less than twenty minutes from the time that the unfavorable news was communicated to her, she was seized with violent convulsions, which continued to recur, in spite of the most approved remedies (the patient being completely comatose between the paroxysms), until after delivery, which was affected by artificial dilatation of the os uteri and the application of forceps.

CASE III.—Was called, May 15, 1873, at 8 A.M., to see Mrs. W ——, aged thirty-six, the mother of three children. Patient had had labor pains for several hours, and was somewhat nervous and apprehensive of trouble, on account of the immense size of her abdomen. The os uteri was well dilated, the head in the pelvic cavity, and the membranes unbroken. I ruptured the membranes, and, in less than half an hour, the patient was delivered of a large, healthy female child. As the child was expelled, having my left hand upon the fundus of the uterus, I observed that it contained a second child, but I was careful not to communicate this information to the patient. Having handed the first child to the nurse, who went into an adjoining room to wash it (the husband of the patient superintending the operation), I made a vaginal examination, and felt a hand through the membranes. I oiled my hand and forearm, and having placed the patient on her back, with her knees drawn up, I gently introduced my hand into the uterus, seized a foot, and brought it outside the vulva. The uterus contracted well, and in a few minutes, the breech was expelled. I then hastened to deliver the shoulders and head. The child, a healthy female, cried vigorously as soon as it was born, and it would be difficult to describe the look of astonishment on the faces of the patient, her husband, and the nurse, as this entirely unexpected addition to the family thus boisterously announced its arrival. The patient afterward told me that she thought my manipulations had for their object the removal of the placenta.

The placentæ were detached by the uterine contractions, and easily removed.

The uterus contracted well, and the subsequent progress of the case was in every respect satisfactory.

## Progress of Medical Science.

THE TREATMENT OF CLUB-FOOT WITH APPARATUS.—Dr. James S. Green, of New York, contributes to the November number of the *New York Medical Journal and Obstetrical Review*, an article in which he argues that a great majority of the most intractable forms of club-foot may be treated successfully without the use of the knife. To effect the purpose of safe, comfortable, and certain reduction of chronic club-foot by mechanical means, he remarks, the instrument must perform the following functions: 1. It must effect by extension *the separation* of the articular surfaces of the bones involved exactly in the position in which they are presented by the deformity. The extension should be so complete that the synovial surfaces of the tarsal bones will slide *over* and *not upon* each other when the foot is twisted into its normal position. (This condition being obtained of itself reduces to a minimum the amount of force necessary to be exerted in moving the bones, which are thereby not jammed against each other, the synovial membrane and the cartilages injured, and ulceration of the soft parts made imminent.) 2. It should produce *the gradual* reduction of the foot to a normal position by continuous stretching, acting exactly in an opposite direction to the lines of the deformity.

In talipes equino-varus (the most common form) it should flex the foot, thereby overcoming the contraction of the gastrocnemius and soleus muscles, while at the same time it should abduct the foot, reducing the rigidity of the tibialis anticus and tibialis posticus muscles. It should stretch the plantar fascia, after overcoming the tendo Achillis and during the reduction of the tibial muscles. Withal, the instrument should be light in weight, portable, and easily worn, so that the patient may assist the cure by walking upon the foot which is being grad-

ually extended and drawn toward its normal position. It should be so constructed that, as the opposing tissues yield to the applied forces, the advantage gained, be it ever so little, can be easily seized and retained. The "compound club-foot twister," an instrument employed by the author and his associate, Dr. C. F. Stillman, is described as being so constructed as to twist the anterior portion of the foot on the posterior at the medio-tarsal joint, and also to gradually and painlessly alter the angle of the foot with the leg at the ankle joint. It consists of a local extender, provided with a slotted arc for graduated movement, placed each side of the ankle-joint, and another placed in front of the arch of the foot. Below, these are attached to a flexible felt or leather sole, on which the foot is firmly fastened by bandage; and above they are connected to metal terminal plates, which are bound down to the leg by some immobile dressing. This splint allows the foot to be twisted back into shape without pain, as it provides a local extension which relieves the parts from strain and attrition during the twisting, and also allows the patient to walk without interfering with the action of the instrument, the foot being completely under the control of the surgeon. The instrument and dressing used in a case related weighed thirteen ounces.

Conception without Introduction of the Penis.—Authentic cases of impregnation after contact of the male organ merely with external female genitals are so rare that the following history is of interest, if only in a medico-legal aspect. Sippel was called to assist in the delivery of a woman at full term, the husband stating that the genitals had completely grown together, so as to prevent the extrusion of the fœtus. On examination the head was found to protrude between the labia-majora during each pain, but was apparently entirely surrounded by a tense fleshy membrane, fully five millimetres in thickness. The waters had been very slowly evacuated; an opening, therefore, must necessarily have existed. After close search this aperture was found in the centre of the membrane, and having the size of a lead-pencil. A blunt-pointed bistoury was now introduced, and the fleshy diaphragm divided by a crucial incision, after which the delivery of a living child was easily effected.

On examination, fourteen days post-partum, the site of the hymen was found occupied by four tough fleshy folds, as thick as the little finger, while the vagina and uterus were normal. The condition of the parts in this case was such as to entirely preclude the possibility of the penis having entered the vagina, as, indeed, both husband and wife stated was the case. Not knowing any better, and conception having followed, they had believed that this was the usual method of sexual intercourse. No actual contact between the glans penis and cervix having occurred, it is evident that the spermatozoa must have penetrated from the vulva into the cavity of the uterus by their inherent active progression.—*Centralblatt für Gynaekologie*, April 30, 1881.

Echinococcus of the Mammary Gland.—To the eighteen previously recorded cases of this affection, E. Fischer adds one recently observed by him at the Strasburg clinic. At the age of seventeen the patient first noticed a hard, painless lump, as large as a chestnut, in the right breast. For three years the swelling remained pretty much of the same size, but then it began to grow anew, and gave rise to pains in the diseased part, which radiated into the right axilla, along the shoulder and down the arm. On examination, a tumor as large as an apple was found in the upper and outer part of the mamma about four to five centimetres beyond the nipple. On extirpation, the growth was observed to contain about fifty scolices, some of them grouped in clusters upon a common pedicle. At the same time a second tumor, of the size of a hazel-nut, was removed from the subcutaneous adipose tissue in the posterior axillary line of the left side. Its presence had been noted simultaneously with that of the first tumor. It had grown rapidly until it had attained the size of a pigeon's egg, after which the size had become reduced to its present dimensions. It was held to be an obsolescent echinococcus sac. The immigration of the parasites took place probably about two months before the tumors were first discovered, as at this period the patient had, on several occasions, suffered from gastric disturbances.—*Centralblatt für Chirurgie*, April 30, 1881.

Successful Removal by Tracheo-fissure of a Fibrosarcoma of the Lower Part of the Trachea.—After a short *résumé* of the history of endotracheal neoplasms, Meyer-Hüni relates in detail, in the *Correspondenzblatt für Schweizer Aerzte*, May 1, 1881, a case of the above description. The patient, a farmer aged twenty-seven years, suffered since boyhood from gradually increasing dyspnœa, which finally became so intense that suffocation seemed imminent. A laryngoscopic examination was made with the greatest difficulty. It sufficed, however, to demonstrate the presence of a tumor in the lower part of the trachea, growing from the posterior wall, with its superior extremity apparently on a level with the third or fourth cartilaginous ring. Expecting to be able to get at the tumor, and to remove it with the galvano-caustic wire, Meyer-Hüni performed tracheotomy above the isthmus of the thyroid gland, with partial division of the latter. But the growth was lower down than was anticipated, and, in fact, could not be seen from the incision. The patient being greatly exhausted, further operative interference was postponed until the following morning. At this time dyspnœa was very urgent. The cutaneous incision was prolonged downward for a distance of 1.5 centimetre on the manubrium sterni, the thyroid isthmus compressed between two suitable forceps, and divided between them. The tracheal incision was then extended downward as far as the episternal notch. On drawing apart the lateral halves of the trachea, the upper part of the tumor came in view; further examination showed it to be attached to the left side of the trachea by a broad base, which was then divided with curved scissors. The wound bled quite freely, but the hemorrhage was easily controlled for the time being by pressure with the finger. Afterward a Trendelenburg's tampon-canula was introduced.

On examination after removal, the tumor proved to be an alveolar fibrosarcoma, the dimensions being, 21 by 18 by 10 millimetres. The further progress of the case was marred by the development of a pleuritic effusion on the left side, and a mild broncho-pneumonia, besides several less threatening complications; but at the time of dismissal, three weeks after the operation, the tracheal incision was nearly closed by granulation, and the patient's general condition was excellent. On examining the interior of the trachea, a flat, but rather prominent mass of granulations was detected at the site of the original tumor. Whether this mass was composed simply of

granulation-tissue, or whether it was to be regarded as a recurrence of the disease, could not be decided at the time. Two months later the patient presented himself for examination. Respiration was then quite easy, and the voice was clear and strong. There was still some swelling of the mucous membrane of the upper portion of the trachea, preventing any insight into the deeper portions of the canal, but in other respects the patient seemed perfectly well and healthy.

Operative Fixation of Movable Kidneys.—Hahn has devised a new operation as a substitute for nephrectomy, in cases where this would be indicated simply by reason of excessive mobility of the kidney. The operation, which has been performed on two patients, may be briefly described as follows: The patient having been placed on the side opposite to that of the affected organ, an incision was carried along the outer border of the corresponding sacrolumbalis muscle from the lower border of the twelfth rib to the crest of the ilium, successively dividing the skin, the latissimus dorsi and the external layer of fascia enveloping the sacrolumbalis. The last-named was then drawn toward the median line, after which the quadratus lumborum muscle, and the fibrous layer of the peritoneum were incised. It may be remembered here that, according to Arnold, the kidney is not entirely extraperitoneal, the anterior surface of the viscus being covered by the serous layer, and the posterior surface by the fibrous layer of the peritoneum, so that an incision through the latter does not necessarily involve an opening into the peritoneal cavity. Pressure was now exerted upon the anterior surface of the belly, so as to force the kidney into the wound, to which it was there attached by eight or ten catgut sutures, after which the whole wound was plugged with carbolized gauze. There being no reaction, the first dressing was only removed on the fifth day, the subsequent ones at corresponding intervals. In about four weeks the wounds were almost entirely healed, and the kidneys were found firmly fixed in their new location. In both cases, however, a slight degree of mobility could still be detected at a somewhat later period. It would seem advisable, therefore, in future operations to partially strip off the adipose capsule from the posterior surface of the kidney and then to stitch this part of the capsule into the wound; it would also be preferable to fix the kidney as low down as possible, in order to give the organ a firm support, and to prevent any tension upon the seat of fixation during the assumption of the upright posture. Experience teaches that a dislocated kidney creates no disturbance, no matter how low it is placed, so long as it is firmly secured in its new location.—*Centralblatt für Chirurgie*, July 23, 1881.

Treatment of Hydrocele by Injections of Chloride of Zinc.—Impressed by the favorable results obtained in the treatment of sebaceous cysts with injections of chloride of zinc, Borck employed this procedure in a case of hydrocele of the spermatic cord, which he had previously tapped several times without permanent benefit. A few drops of a five per cent. solution were injected by means of a hypodermic syringe. This caused slight smarting, which lasted but a few minutes. The patient was kept in bed during the succeeding twenty-four hours. For a few days there was moderate sensitiveness on pressure over the hydrocele, but both swelling and pain rapidly subsided, and by the twelfth day the tumor had entirely disappeared, leaving only a slight thickening of the spermatic cord at the side of the injection. Even of this no trace was left after the lapse of about five weeks. Should this method of treatment continue to yield good results in similar cases, Sanger believes that it might be cautiously tried in cases where there is a communication between the sac and the abdominal cavity, perhaps also in desperate cases of ovarian cysts, where a radical operation is, for one reason or another, not permissible.—*Centralblatt für Chirurgie*, July 23, 1881.

Influence of Malarial Infection on Pregnancy, Parturition, and Childbed.—Goth claims that pregnant women are affected by malaria in the same ratio as other individuals. The malarial poison tends strongly to induce abortion or premature labor, the danger being the greater the farther pregnancy is advanced. This accident occurred in 41.3 per cent. of the cases under Goth's charge in the Klausenburg and Maternity. Some differences are noticeable, according as the fœtuses are stillborn or living. In the former event the uterine contractions are brought on by the presence of the fœtus acting as a foreign body, there being three factors which contribute to destroy its vitality—elevation of the mother's temperature, especially when it attains a height of 41.5° C. or more, long-continued anæmia of the mother, and the immediate toxic influence of the malarial poison. When a living child has been born, the premature uterine contractions have been incited by the febrile paroxysms. Such infants are usually much below the normal weight, four hundred grammes or more, and their viability is quite precarious during the first few months after birth. As regards the parturient act, Goth finds that the first stage lasts almost twice as long in women suffering from malaria as it does in ordinary cases. The typical course of intermittents is not interrupted, during or by parturition, except in so far as the paroxysms sometimes tend to occur at shorter intervals. During the puerperal weeks women are particularly liable to contract malaria. Whether this predisposition is due to the raw state of the genital tract, or to the general condition of weakness present cannot as yet be decided. The paroxysms at this time are often atypical, that is, the first or the third stage, or both, may be absent. In mild cases mothers may nurse, but in severe attacks the infants should be weaned. Quinine is fully as efficacious as in ordinary cases of malaria, and exerts no injurious influence on the nursling.—*Schmidt's Jahrbücher*, July 26, 1881.

Puerperal Infection in the Male—During the prevalence of a severe epidemic of puerperal fever in Pollenza a woman in childbed was attacked by a fever occurring in paroxysms and resembling intermittent fever. A few days after the last paroxysm, when the patient felt perfectly well, her husband attempted to have sexual intercourse with her, but the onset of intense pain in the region of the frenulum compelled him shortly to desist. He stated that he was sure something must have been torn at the time, but he had not noticed any bleeding. In a short while the pain subsided. Twenty-four hours later, however, a chill occurred, followed by intense fever, with remission of all the symptoms on the following morning. In the evening the chill and fever recurred. On the third day, the right inguinal glands became swollen. When called in to see the patient on the fourth day, Lapponi diagnosed ery-

sipelas of the skin of the penis, lymphangitis, and lymphadenitis. The erysipelatous inflammation continued to spread, the skin becoming gangrenous at several points. On the sixth day the patient died, with well-marked symptoms of septicæmia. Although not able to discover any laceration at the time of the first examination, Lapponi still assumes that the point of infection was a slight tear of the frenulum, which the patient suffered during the unsuccessful attempt at coition. — *Centralblatt für Gynaekologie*, August 6, 1881.

Capacity of Hearing in Children.—Weil states that too much attention cannot be directed to the fact that children attending school are often regarded as inattentive, when in reality they are more or less deaf. An examination of four thousand five hundred children in Stuttgart and its environs led to the following results: 1, A normal ear hears a whisper of medium intensity at a distance of twenty to twenty-five metres, when the surroundings are quiet; 2, disturbances of hearing are uncommonly prevalent among the young—in the public schools as many as thirty per cent. of the scholars hear quite poorly with one or both ears, while a still larger percentage do not hear perfectly; 3, among the poor we encounter defective audition more frequently than among the better classes; 4, the percentage of disturbances of hearing increases with age; 5, in country schools the conditions are comparatively better. Many of the affected children were not at all aware of their infirmity. Weil suggests that teachers be required to test the hearing of their pupils at the commencement of every school-year.—*Med. Correspondenzblatt*, August 13, 1881.

Nerve Suture.—Falkenheim believes that most of the recorded cases of primary union with rapid restoration of nervous function after coaptation and suture of the divided extremities of nerves are unreliable, because the reporters have neglected to take into consideration the existence of the so called supplementary mobility and motility, the *motilité et sensibilité supplées* of Létiévant. Most parts of the body are probably supplied with muscles which ordinarily act only as auxiliaries to other muscles, but which in the event of the latter becoming disabled, are fully capable of replacing their functions. A striking illustration of this is afforded by the muscles of respiration. The same is the case with sensory nerves. In a large number of rabbits, doves, dogs, and cats, Falkenheim divided either the sciatic or the pneumogastric nerve with a pair of sharp scissors, and reunited the divided extremities either with very fine catgut or silk sutures, using a fine lance-shaped needle, the cutting edge of which was passed in a direction parallel to the course of the nerve-fibres. The wounds, after cleansing, were closed with catgut sutures. In some of the experiments the nerves united directly, in others indirectly, in none was any inflammatory reaction observed. After the lapse of forty-eight hours the motility and sensibility of the operated limb were tested, and at the end of one or two weeks the nerve was exposed at the seat of operation and examined as to its functional capacity below and above the cicatrix. But in not a single instance was a restoration of conductivity observed.

In another series of experiments on young rabbits, the author divided, without subsequent suture, the tibial nerve, at a point where it lies firmly imbedded between the peroneal and saphenous nerves, and then exsected a small piece of each of the last two some distance beyond this. Here, also, the nerve stumps did not unite primarily, although the paralyzed muscles seemingly resumed their functions shortly after the operation. The apparent restitution of conductivity was due to the passive action of the extensor digitorum pedis communis. In the face of his own negative results, Falkenheim still believes that Gluck's observations warrant him in assuming the occasional immediate restoration of conductivity after division of a nerve. Reparation is, without doubt, hastened by suture of the divided ends. If accurate coaptation can be secured by introducing the stitches through the paraneurotic tissue, this procedure alone should be adopted. In case, however, the enveloping connective tissue has been extensively divided, or if considerable tension be present, the sutures may be passed directly through the nervous tissue, using very fine catgut as material, and passing the needle in such a way that its cutting edge shall lie parallel with the course of the nerve-fibres. If these precautions be followed, only insignificant symptoms of irritation, or none at all, will be developed.—*Centralblatt für Chirurgie*, August 20, 1881.

Hydrobromic Acid.—Massini regards this drug as a valuable acquisition to our stock of remedies. While the indications for its exhibition are the same as those for the other preparations of bromine, such as bromide of potassium, monobromide of camphor, etc., it possesses the advantage over the latter of having a more pleasant taste and of being better borne by weak and sensitive stomachs. The remedy was administered to thirty-one individuals with the following results: in four cases—one of violent neuralgia and sleeplessness, associated with cardiac disease, one of insomnia in an insane person, and two of aggravated hypochondriasis—it was of no value; moderate relief was afforded in seven cases—hypochondria with palpitation of the heart, hysteria with the same complication, nervous hyperemesis, hysteria with insomnia, the same with congestions at the menopause, hysteria with intense vertigo, and anæmia in a youth suffering from violent headache upon the least exertion. The acid was productive of marked and sometimes lasting benefit in the remaining twenty cases, comprising examples of nervous palpitation of the heart, insomnia, cerebral congestion and dizziness, paroxysmal headache in an individual affected with multiple sclerosis, congestive toothache occurring during pregnancy, persistent hyperemesis, hysteria, and, finally, pollutions from onanism. The remedy is best given about fifteen minutes after meals, in doses of ten drops of the concentrated (twenty-five per cent.) solution, or twenty to thirty drops of the dilute (ten per cent.) solution, well diluted with sweetened water. No unpleasant after-effects were observed.—*Correspondenzblatt für Schweizer Aerzte*, September 1, 1881.

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A Case of Rupture of the Intestines, somewhat unique in character, is reported by Mr. William Walker in the *Lancet*. The patient, a young man of nineteen, had been drinking, and while in a stupid condition he fell off the shaft of a cart he was driving and the wheel passed over his abdomen. He showed no notable outward bruise, and was quite comfortable until the next afternoon, when he was taken with symptoms of peritonitis and soon died. The autopsy showed the duodenum to be cut entirely across.

# THE MEDICAL RECORD:

## A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., Editor.

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## THE TREATMENT OF WOUNDS AFTER OPERATION.

In view of all that is being said concerning the so-called strictly antiseptic method of the treatment of wounds after operation, and the exceptionally good results claimed thereby, it would seem almost a work of supererogation to discuss the subject any further. But to any one who conscientiously studies the question of the healing of wounds and the best means to be employed to such an end, it becomes apparent that a considerable sifting of evidence is needed to reconcile the respective claims of apparently opposing doctrines and to reduce the same to the consistent level of generally accepted principles. There is a growing conviction in the minds of the large majority of surgeons that Listerism, so-called, is quite effectual in its way, but does not accomplish everything—in other words, that all the precautions usually insisted upon by enthusiastic advocates are not always essential to success. Hence it has come to pass that the spray is doomed to be banished from the operating theatre, that even now it is used only in exceptional cases, where extensive surfaces are to be exposed, and more in conformity with custom and its implied safety than for any demonstrably good results obtained thereby. A blind confidence in its good effects has made surgery bolder, has opened new fields for operation, and has thus indirectly added to the resources of our art. So far surgery owes much to the spray, but the more candidly an examination into its positive merits is made the more it is proven that this much-vaunted germ-killing vapor is the least important factor in the general summing up of cause and effect.

From time to time we have presented in these columns many proofs of this assumption, gathered from the experience of many who have studied the comparative effects of the different systems of wound treatment, and who have emphasized their statements by extensive observation and varied experience. Notably among these observers we refer to Kern, Guérin, Callender, and Bryant. To these names we could add those of many distinguished surgeons in this country. And the number is so constantly increasing that the spray is fast losing its charm, and the real safety of the patient is sought by other and better means against infection. What is said of the spray may be said of what are being claimed as some of the more essential elements of the Lister plan. Hence, while keeping the broad questions open, we are preparing ourselves for more fixed conclusions regarding the underlying principles of successful antisepsis.

In the discussion of the subject before the surgical sections of the International Medical Congress at its recent meeting in London, notwithstanding the admirable defence of the distinguished London surgeon, and the special pleadings of his enthusiastic followers, the strict antiseptic treatment, so-called, evidently lost ground.

One of the most practical contributions to this discussion was made by the late William Warren Greene, of Portland, Me., and we are afforded the opportunity of presenting his remarks in another column. This distinguished and experienced surgeon has, in a straightforward and telling manner, brought out many essential points in the successful healing of wounds, and has done very much to widen our views of antisepsis, pure and simple, and to establish many of those general principles upon which practical results must depend.

Dr. Greene very properly emphasizes the necessity of absolute cleanliness in wounds as the proper starting-point in rapid healing. The exclusion of air as a means to this end is not too strongly urged. In so doing we imitate nature in her efforts to seal wounds by glazing their surfaces with coagulated bloody serum, and afterward sealing them over by scabs. The giving them an opportunity for healing brings out another important element, that of rest. Perfect drainage is naturally dwelt upon as a prime necessity, but a very proper precaution is urged not to allow tubes to remain too long in a wound. We are convinced that many surgeons, in their anxiety to prevent the accumulation of pus in deep-seated wounds, really hinder their natural healing thereby. The employment of rubber tubes for the purpose is condemned, but the objections urged, although reasonably tenable, are not absolute. In recent wounds the hair-drains, used only until all bloody serum which may have escaped into the wound cavity is evacuated, are to be preferred. The absolute necessity of arresting all hemorrhage before the edges of the wound are brought in contact is forcibly presented, as a dry wound is a rapidly healing one. No surgeon has more effectually proved this than Mr. Keith, whose care in securing every bleeding point

is proverbial, and whose successes, even in ovariotomy, have claimed the admiration of his colleagues.

Animal ligatures are quite essential; but after perfect drainage and absolute rest, there is possibly no more important treatment of a wound than the proper stitching of its edges. Accurate approximation can always be maintained by the use of numerous sutures of fine thread. The material of the suture is of secondary importance compared with the conditions of their application. Ordinary waxed thread sutures of fine silk have, as is well known, remained in the soft tissues harmless for a fortnight and three weeks at a time, and sometimes have become perfectly encysted.

It is worth while to note that our contributor has wide and sensible views regarding the utility of the irrigation of wounds, and also has some definite convictions regarding the relative values of carbolic, boracic, and salicylic acids as disinfectants. Although many surgeons will not agree with him in his conclusions as to many of these points, there is a general testimony in favor of disinfecting every wound by some means or other, and preferably by carbolic acid, before applying any permanent dressing. When this is done thoroughly, it is safe to say that the spray is unnecessary. In fact, the latter is only advisable when thorough washing of the wound is impossible. Under such circumstances the spray is perhaps better than nothing.

In conclusion, and by way of summary, it is well to remark that the paper to which we have referred has helped the study of the question of antisepsis, by bringing out, in bold relief, the main principles which should govern the treatment of all wounds, viz., perfect coaptation, thorough drainage, scrupulous cleanliness, and absolute rest.

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### THE INNOVATIONS IN THE PROGRAMME OF THE TRI-STATE MEDICAL SOCIETY.

The recent meeting of the Tri-State Medical Society, of which we give a report elsewhere, deserves some special attention from those interested in organizing medical work. It initiated two quite radical changes in its programme, viz.: it abolished its annual volume of proceedings, and it omitted all the municipal amenities and social relaxations customary upon such occasions. In the unadorned language of the committee, the members "were welcome to what they paid for, and no more."

The discontinuance of an annual volume is, we believe, a wise measure, and shows a progressive and practical spirit on the part of the society. We do not deny that there are advantages in having these publications as usually issued; but they are to be considered in the light of luxuries, not necessities, and are oftenest only the mausoleums of mediocre endeavor. When exclusive publication is required in these works, the result, as we have often enough said and proved, is unjust to author and injurious to the society. The action of the Tri-State Medical Society in this matter should be noted by other organizations, and the result of its experience appropriated.

The abandonment of all formal social enjoyments, of the historical banquet, the excursions, the speeches, the receptions, and of the musical pop of the champagne bottle, is a measure that will be more slowly adopted elsewhere. Many a hard-working man is attracted to societies in part by the pleasure of meeting friends and of interchanging views as well as greetings there. It may be that he learns more at lunch than in the session. As doctors work hard all the year, it is not surprising if they like some relaxation at their reunions. The examples of foreign societies show that good work is not incompatible with a railway excursion.

In fact, there are two sides to this matter, and it is a question which every society must decide according to the character and tastes of its members. The action of the society in question was satisfactory to its members, and it will no doubt be beneficial in general; for there has been and still is an abuse of this "relaxation" part of the annual work among a number of societies. But while rides on the river and the blandishments of lovely women should be made subordinate matters, it can be strongly argued that their complete effacement from the programme is not at all necessary.

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### THE VALUE OF REPUTATION.

A striking instance of the value of reputation is given in a recent issue of *La Andalucia Medica*, in which it is stated that the autopsy of President Garfield was made by Doctor Longbranch. On general principles it would have been assumed that there were no better opportunities for becoming known in connection with the performance of professional work than were afforded by an association with the case of our lamented President. It may even be possible that our Spanish friends are in ignorance of the names of the gentlemen who signed the official bulletins. If our suspicions in this respect are well founded, it may be that none of the theories regarding the course of the ball are yet known to them, neither any of the surgeons who could have saved the patient had they been summoned to attend him.

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### THE DANGERS IN THE AMERICAN SCHOOL SYSTEM.

Some undoubted progress in matters of school hygiene can now be recorded. The subject is being practically studied in Massachusetts, Wisconsin, Ohio, Maryland, and elsewhere. In some of those States the investigations are in the hands of boards of health; in other cases, work has been done only by local physicians under the direction of the school authorities.

It is in the Western States that some of the best

work has been done in this direction. The Wisconsin Board of Health has in particular published some excellent papers upon the subject. In its last report there is an article by Professor T. W. Chittenden, which enumerates very completely the ills that the growing boy or girl may be subjected to at school. Much as we have said heretofore about American schools and their attendant defects, it will not be inopportune to review again the list of them. It cannot be too strongly impressed upon the medical profession that the present methods of educating the young need a most thorough overhauling and revision.

The average school-child is liable to be subjected to a greater or lesser number of the following approved educational practices or incidentals of school management: a long enforcement of constrained or "military" attitudes, and the compelling girls, in particular, to stand for protracted periods of time; the prolonged sitting at desks, whose height or relation to the seat forces the child into a cramped position; a lack of supervision over the playgrounds; crowded rooms; dusty or impure air and poorly regulated temperature; insufficient or improper lighting of the rooms; lack of care to prevent the increase of myopia and of deafness. Few teachers understand that the "myopic eye is always a sick eye." Excessive studying out of school, irregularity in meals, insufficient recreation, the excitements and worry of examinations, the struggling for high marks, steady mental application without reference to changes in bodily functions or physical strength—all these unite to impair the health and often prematurely break down the constitution of growing children.

That these are not imaginary evils it is unnecessary to argue. Actual observation long ago established the facts.

We have recently received from Dr. L. B. Tuckerman, of Cleveland, O., the results of some investigations, which are somewhat novel in character, and which show some of the above-mentioned evils in a most striking light.

He writes that, during the last school year, of the eight hundred pupils in the Cleveland High School nearly twenty-five per cent. of the girls and eighteen per cent. of the boys withdrew from one cause or another. Investigations were authorized in consequence, and personal inquiries were made by a physician. It was found that seventy-five per cent. of the girls who had left had done so wholly or in part on account of ill-health. Of the boys, nearly fifty per cent. were in poorer health while in school, and thirty-three per cent. of those who left were compelled to do so on account of physical troubles. The Cleveland High School is about the same in character and requirements as other city high schools throughout the country.

Further inquiries were then made into the health of the scholars as well as of graduates. A very interesting fact was developed in regard to the relation of ill-health to the number of hours spent in study outside of school. It was shown, in the first place, that the girls studied, either from necessity or choice, more hours out of school than the boys did. We publish elsewhere, in full, a table showing that various symptoms of ill-health increased almost uniformly in proportion to the number of hours of outside study.

Another series of investigations showed that ill-health increased in inverse proportion to the amount of recreation or social enjoyment indulged in.

Altogether, the facts thus collected at Cleveland furnish very interesting and important data for educators to ponder over. The system of investigation adopted there is almost a new one. Its results, when more widely adopted, will be most valuable. Parents and school-trustees cannot gainsay figures like those of the Cleveland school, which show that the health of more than half the children drops below the level when attending school. Further investigations in this same line are being undertaken, and they cannot fail to lead to beneficial results.

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### MISUSE OF ADVERTISEMENTS.

It is in the experience of every journal to be constantly solicited to call attention to advertisements and thereby directly and indirectly puff the wares of patrons of the advertising columns. If advertisers could really appreciate how little good can be accomplished by such means, they would not ask that it be done. The motive in so doing on the part of any journal is so apparent to the reader that he is more apt to become prejudiced against the article than otherwise inasmuch as it seems to be in need of vigorous puffing to make it sell. As is well known to our advertising patrons, we always decline to call attention, directly or indirectly, to any article in our advertising columns. We take it for granted that each article in the advertising department can speak for itself, and that our readers are sufficiently intelligent to form their own estimate as to the value of the testimony offered.

In view of these facts, we are somewhat surprised to see in the first issue of the *New England Medical Monthly* (October, 1881) an article taken from our advertising columns and quoted from The Medical Record as having appeared in our original department. The article is on page 28 of the *New England Medical Monthly*, vol. i., No. 1, and its publication under scientific abstracts is a barefaced deception upon the editor of that journal and upon its contributors and readers. It is, perhaps, unnecessary to say that no such article has ever been offered to The Medical Record, except as an advertisement, and could on no account appear in the body of our journal.

We make reference to this shortcoming on the part of the *New England Monthly* with the more regret, inasmuch as its first number is otherwise a model of its sort, and contains many highly interesting and practical articles. We believe the editor, Dr. Wile, has been imposed upon, and he should right himself at once with his readers and frankly state that the article referred to as having been quoted from THE RECORD was merely an advertisement, and could have appeared in THE RECORD in no other form. We would also respectfully call the attention of our exchanges to the matter, in order that they may not suppose by seeing the quotation that THE MEDICAL RECORD would be guilty of inflicting such an article upon its readers as a contribution to its scientific department, and that consequently they will abstain from giving it further publicity as such at the expense of our good name.

## Reports of Societies.

### SEVENTH ANNUAL MEETING OF THE TRI-STATE MEDICAL SOCIETY OF KENTUCKY, INDIANA, AND ILLINOIS.

*Held in St. Louis, October* 25, 26, *and* 27, 1881.

DR. A. M. OWENS, PRESIDENT, IN THE CHAIR.

THERE were about two hundred members present. Three sessions a day were held, and there were no excursions or banquets. The usual welcome address of the Mayor was also omitted, on account of lack of time. DR. H. C. FAIRBROTHER, on behalf of the Committee of Arrangements, said that these changes from the usual programme of medical society meetings had been made after careful consideration. The delegates were there for a special purpose, and no time should be wasted in complimentary speeches. They came asking and receiving no favors. They were welcome to that for which they paid, and no more.

DR. WILLIAM PORTER, on behalf of the Committee on Programme, spoke in the same vein. The usual banquet had been left out because it was not the purpose of the gentlemen assembled to spend their time in eating and drinking, but for the purpose of elevating and extending knowledge in the profession they had chosen.

The society then listened to the

ADDRESS OF THE PRESIDENT.

He spoke of the high aims and duties of the medical profession, and of the help and advantage which societies were in carrying these out. He referred to the Tri-State Society as an illustration, and briefly traced its history and growth. He then introduced the subject of the dangers to society from syphilis, and the method of preventing or lessening these. He offered no positive plan for such prevention, but made a number of suggestions, and finally asked that the subject be discussed by the society.

At a subsequent session there was a debate upon this address which was quite active, but which resulted in nothing worthy of note.

An excellent paper was read by DR. F. D. WASHBURNE, of Hillsboro, Ill., on "Medical Orthodoxy." The conclusion was that the only orthodoxy worthy of the acceptance of physicians is the broad-minded acceptance of the good, whatever its source.

A paper on "Pædiatric Practice" was read by DR. G. WHEELER JONES, of Danville, Ill.

On the second day a paper was read by DR. HEBAR ROBERTS, of Carbondale, Ill., on the "Use and Abuse of Splints in Fractures above the Elbow." An abuse which the reader enlarged upon, and considered dangerous, was that of making the splint too tight. This was done sometimes in deference to the opinion of the patient, rather than the judgment of the surgeon. In the discussion, the question of how much complete rest ought to be given the broken limb was raised. Some remarks on "Treatment of Fractures of the Radius by the Rubber Bandage" were made by DR. E. BROCK, of St. Louis; and quite an elaborate monograph on "The Treatment of Extrophy of the Bladder" was presented by DR. PRINCE, of Jacksonville, Ill.

DR. J. E. LINK, of Terre Haute, Ind., read an article on the "Reformation of Bone," in which he claimed to have been the first to have announced the possibility of such reformation after exsection. This he did for twenty years in Chicago, and his views were at that time ridiculed.

ABOLITION OF THE ANNUAL VOLUME OF TRANSACTIONS.

DR. DICKINSON, from the Committee on Publication, reported that the Committee's conviction was that the cost of publication of the proceedings in a separate volume would be too expensive, and, besides, such a volume would have too small a circulation. Therefore, they believed in conferring with the authors of the papers, and learning from them the medical journal in which they preferred to publish such papers.

After some discussion, a motion was made and carried, that the matter be left discretionary with the Committee, provided that the several authors of papers indicate, before going home, their preference, if they entertain any, in regard to the journal in which they would wish them published.

DR. B. M. GRIFFIN, of Springfield, Ill., read a paper entitled "Headache: Cause and Cure," which covered the subject very completely. He called special attention to headache from eye-strain. In the subsequent discussion, the efficiency of galvanism in treatment was referred to. In the intense headache of cerebral or cerebella disease, DR. HUGHES had found saturating the head with sulphuric ether very satisfactory.

DR. C. H. HUGHES, of St. Louis, read a paper on "Insanity in its Relation to Law." He criticised the present status of the laws regarding insanity, and spoke of the great injustice which legal ignorance had wrought. The chief aim of his paper, however, was to plead for statutory enactments

FORBIDDING MARRIAGE

among those likely to become insane, epileptic, etc.

"There are," he said, "methods humane, and they ought to be made lawful, by which insanity may be abridged, and the great horde of neuropaths that follow, like sick and wounded stragglers of an army, in the march of civilization; methods that would leave no stain of blood on the judiciary, no foul blot of murder on the State's escutcheon.

"The neuropathic diathesis, the insane constitution that breeds its like, and burdens the State with

hereditary imbecility, idiocy, insanity, deaf-mutism, and the lesser degrees of mental defect, must be made the subject of statutory enactment and enforced law. Sentimentality must yield to fact; the teachings of nature must be heeded and as sternly enforced as her own unerring edicts are. Why should the confirmed drunkard be permitted to beget a race of imbeciles, epileptics, idiots, or criminals? Why should the life-long criminal and pauper be allowed to go on reproducing his defective kind, the lunatic likewise, and all the mentally maimed of whatever degree, especially when by forfeiture of liberty they fall under proper custody of the law?"

The case of Guiteau was discussed, but no judgment pronounced, the speaker concluding with, "Time will tell."

REFLEX CONTRACTION OF CORPORA CAVERNOSA

was the title of a paper by Dr. J. T. Hodgen, of St. Louis. He stated that the cases described in it formed addenda to those described in a paper read by him before the Missouri State Medical Association in 1876. They presented peculiar features, which he had not recognized in any other reported cases.

Dr. Ford thought the cases described by Dr. Hodgen identical in symptoms with those mentioned by Van Buren. But Dr. Hodgen had excelled the latter in giving a correct rationale. He himself had a case of the kind in hand.

Dr. A. B. Bernays presented another case. He mentioned that he had sent the man to a specialist, who dosed him with iron, quinine, and strychnine, charged him $100, turned him loose, and did not cure him. Then Dr. Bernays performed a radical operation for varicocele, and his patient was cured.

Dr. A. G. Williams read a short paper on "Congenital Ptosis," with a report of a case.

The Secretary read a paper from Dr. E. Walker, of Evansville, Ind., detailing his success in several cases which he had treated with

STATIC ELECTRICITY.

Dr. Hughes spoke very favorably of this form of electrical treatment.

Dr. H. Wardner, Superintendent of the Insane Asylum at Anna, Ill., read a paper on the

CARE OF THE INSANE,

illustrating, by the cases of the burned asylums at Anna and St. Joseph, where it became necessary to erect temporary dwellings, that the cottage system, with out-door recreation and work, is best for the chronic insane, and that these annexes ought to form a part of the asylum. Of course there should be a main building for the more violent.

Dr. Hughes made remarks on the system, which, he said, was practicable as an annex system; but as to dispensing with a main building, that was impracticable.

Dr. Stephens said that no insane asylum should be built higher than three stories. It ought to be spread out on the ground, not upward in the air. He would condemn the St. Louis Asylum, for the reason that there was not room or opportunity for the patients to exercise themselves, especially in out-door work.

Dr. Hughes again spoke on the question. He said that every State asylum should have at least one hundred and sixty acres of land. Two hundred and fifty is the limit of numbers that should be allowed in one building, under the care of one man. A superintendent must be able to recognize each, to keep his family history in memory, and all the minor details. When he loses sight of the personnel of any, he has more under his care than he should have. The objection to the cottage system comes in during inclement weather, when the chapel, the lecture-room, exhibition hall, etc., cannot be visited. Then the patients become restless and dissatisfied.

Dr. Johnson did not believe in the "palaces" erected for the insane, and he did not believe in gathering all the insane of a State at one point. For the victims of insanity, consequent upon masturbation, he would recommend castration and dismissal.

The elder Dr. Prince referred to the asylums in France. There are four thousand patients in one institution, but they are divided into many departments, under special physicians. As the superintendent is merely business manager, things move well enough.

At the concluding session, the President was instructed to inform the Committee of Arrangements for the next annual meeting that the innovation which had met with such success at this meeting shall be carried out, and that no banqueting or other entertainment is desired, but that the meeting shall be strictly a business one.

The society then adjourned, to meet again at Terre Haute, Indiana, in September, 1882.

## NEW YORK SOCIETY OF GERMAN PHYSICIANS.

*Stated Meeting, April* 22, 1881.

Dr. E. Gruening, President, in the Chair.

PENETRATING WOUND OF SCLERA—SUTURE—RECOVERY WITH NEARLY PERFECT VISION.

Dr. Fridenberg exhibited a young man who had received a severe injury of his right eye. The accident had resulted from the bursting of a soda-water bottle. There was an angular laceration of the sclera. One portion of the wound started from the corneal border and proceeded directly backward in a horizontal plane. This cut was 1½ ctm. long. A second shorter wound was found joining the first at an angle, and passing upward. The upper lid was also wounded. Owing to the deep laceration, the vitreous had become exposed. After cleansing the eye with a concentrated solution of boracic acid, the wounds were closed by suitable sutures, atropia instilled into the eye, and a compression dressing of borated cotton applied. No reaction followed. The palpebral sutures were removed on the fourth day, and the scleral sutures came away on removing the dressing on the seventh day. Indiscretion on the part of the patient caused a temporary delay in the progress of the healing; but two weeks later the dressing was permanently removed, and the patient was now doing well. Vision was quite good, and still continues to improve. There was some symblepharon, and also slight hypermetropic astigmatism, the result of cicatricial contraction. The optic neuritis and opacity of the vitreous, still found on ophthalmoscopic examination, were likewise getting better.

Vision was now $\frac{20}{100}$, and, when corrected, $\frac{20}{50}$. Certainly the result was a very good one. Formerly such cases, as a rule, terminated unfavorably. The modern success of treatment was thought to be largely due to antiseptic precautions.

Dr. Gruening said that he had never seen a more

satisfactory result after deep wounds of the sclera than the present one. It should be remembered that the laceration in this instance was quite extensive, including, as it did, injury of the ciliary body.

According to former experiences, the prognosis of this case would have been unfavorable. He thought that, in addition to the antiseptic mode of treating the wound, the manner of applying the sutures, so as to include only the conjunctiva, had contributed toward a successful healing.

Dr. Welt alluded to a similar case observed at Knapp's clinic, where an equally good result was obtained under a simple dressing without any attempt at antiseptic precautions.

In reply to an observation questioning the antiseptic power of boracic acid, Dr. Gruening remarked that, according to the recent investigations of Schmidt-Rimpler, a concentrated solution of this acid was an almost absolute safeguard against septic infection. He would be unwilling to return to older methods of therapy after his uniformly favorable experience with the new plan.

For the past two years he had not seen a single case in which supervening suppuration had marred his results. The rule was healing by primary intention. And this circumstance should not be underrated in ocular surgery, where, as was well known, suppuration frequently terminated in the destruction of the eye.

### CIRSOID ANEURISM OF LOWER LIP.

Dr. Mravlag exhibited a young man, aged fourteen, who showed a cirsoid aneurism on his lower lip. About ten years ago the patient had sustained a fall, thereby injuring his lip. Inflammation had followed the accident, but no permanent damage had remained. Since ten months the same lip had gradually become tumefied, until at present the evidences of cirsoid aneurism were unmistakable. Therapeutical attempts had not hitherto been made.

Dr. Jacobi expressed the opinion that operative interference should not be resorted to in cases of this kind. The best results would probably follow the use of the thermo-cautery. It would be well, however, to apply only a moderate degree of heat, and this might bring about the obliteration even of larger and distinctly pulsating arteries.

### LARGE NASO-PHARYNGEAL POLYPUS IN A CHILD.

Dr. Wm. T. Kudlich presented a specimen, consisting of a large fibroid polypus removed from the lateral wall of the pharynx in a child aged four years. The growth had extended into the posterior nares, causing a putrid coryza, and leading to anæmia and severe constitutional disturbances on account of sleeplessness from dyspnœa. At first the neoplasm was mistaken for a hypertrophied tonsil. When its true nature became apparent, it was at once removed, and a speedy cure followed.

### URETHRAL POLYPI.

Dr. Klotz related the history of a patient from whose urethra he had removed several polypoid growths by means of his modified Grünfeld's polypotome. This case has already been published in full. (See Medical Record, August 6, 1881.)

### RECURRENT SYMMETRICAL HERPES ZOSTER.

Dr. Zinsser described a case of this kind which had recently come under his observation. The patient was a young man of about nineteen years of age. He had suffered occasional attacks of zoster for many years. Each attack was ushered in by constitutional disturbances, which the patient described as closely resembling sea-sickness. The intervals between the seizures were marked by apparent health, barring only a slight anæmia. No regularity was observed in the recurrence of the attacks. The bilateral symmetry, taken in conjunction with the recurrent nature of the eruption, certainly constituted the case one of great rarity. Neuralgic pains were never experienced by the patient, nor was his temperament or constitution of the neurotic type. The local pains incident to the appearance of the eruption had never been severe.

Kaposi had observed but a single case of this kind. Besides this, the same author mentioned only two similar observations by others. Dr. Zinsser thought the disease in this instance was probably of central origin.

Dr. Langmann said that he had witnessed meningitic irritation as an accompaniment of zoster involving the eyelids.

Dr. Jacobi gave a brief synopsis of the various theories advanced in explanation of the disease. He concluded by saying there could hardly be any doubt about the situation of the disturbance, which he located in the vaso-motor centre of the medulla oblongata.

### SPONTANEOUS AND SUDDEN ACCELERATION OF THE HEART'S ACTION.

Dr. Zinsser reported a case in which he had observed a peculiar and, to him, inexplicable cardiac symptom. The patient was a man, aged forty-four years, apparently in the enjoyment of full health, and not addicted to excessive indulgence of any kind. Suddenly, and without the slightest cause or premonition, the heart's action would leap from a normal rate to about 160 beats per minute. No untoward symptoms followed the paroxysm, and, apart from some sense of dyspnœa, none accompanied it. As a probable cause of such suddenly increased cardiac action, he had found in English descriptions of similar cases only the mention of worms and excitement. In the present case no cause of any kind could be made out.

### RUBEOLA AND MEASLES.

At the instigation of Dr. Scharlau, a prolonged discussion here ensued as to whether rubeola and measles were entirely distinct affections or merely different manifestations of the same disease. The general consensus of opinion was to the effect that they were separate maladies, having, however, some symptoms in common, which would often render the diagnosis of a given case a matter of some practical difficulty.

Before the society adjourned, Dr. Jacobi, in a few appropriate remarks, alluded to the recent death of two formerly very active members, the late Drs. Herzog and Goldmark. Suitable resolutions of condolence were passed.

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*Stated Meeting, May* 27, 1881.

Dr. E. Gruening, President, in the Chair.

### SYPHILIS HEREDITARIA TARDA.

Dr. Klotz exhibited a male patient, aged fourteen years, subject to hereditary syphilis, with late development of symptoms. Large cutaneous surfaces were covered with ulcers and cicatrices, some of which apparently took their origin from the periosteum, others being confined to the skin.

According to Oganieur, the nerves and organs of special sense were commonly the first to be affected. In this instance no symptom pointing to such an occurrence could be discovered. Recently the idea had been generally abandoned that certain lesions of the teeth were characteristic of congenital syphilis. In this case also the teeth were not implicated.

The PRESIDENT remarked that in all the cases of parenchymatous keratitis which had come under his observation, the teeth had shown marked syphilitic lesions. In fact, this variety of keratitis appeared to occur almost exclusively in patients having congenital syphilis.

#### COMPLETE OCCLUSION OF LEFT SIDE OF NOSE.

DR. BRANDEIS showed a young girl who had come to him with a nasal obstruction of the left side. After removal of several polypi, he found a complete bony occlusion about one and three-fourths inch, from the nostril. Nasal breathing was entirely restored after perforation of the bony plate by means of the galvano-cautery.

Luschka had described only two such cases, and, according to him, the condition was commonly a congenital one.

#### PROBABLE CEREBRAL SYPHILIS.

DR. BRANDEIS also exhibited a young man, and gave the following history of his case. Some six years ago the patient had had a chancre. Vestiges of specific ulcerations and osseous hypertrophies were still visible. He had also suffered from various rheumatoid pains. About six months ago he had an epileptic seizure, and two similar attacks since then. At present he complained of vertigo and deafness. An examination revealed a bilateral otitis media and complete deafness. There was also a lack of power of co-ordination in walking.

DR. JACOBY had treated the patient with iodide of potassium, and a marked improvement had followed. He did not regard the case as one of the internal ear, but as an instance of cerebral syphilis, with a lesion at the rhomboid fossa, near the exit of the auditory nerve.

DR. SEESSEL observed that a lesion at the rhomboid fossa would of necessity implicate the pneumogastric, hypoglossal, and glosso-pharyngeal nerves. Symptoms pointing to a lesion of these nerves were, however, not found in the patient.

DR. RUDISCH stated that, according to Charcot, epileptic seizures had never been observed in the early stages of Ménière's disease. He believed the disease was situated in the pons varolii.

The PRESIDENT said that bilateral otitis media was not rare. Syphilitic lesions of the internal ear in such a case would account for all the symptoms observed in the present instance, without the supposition of a central nerve-lesion.

DR. ZINSSER replied that the occurrence of epilepsy in this patient militated against such a view of the case.

DR. SEESSEL presented some photographs of transverse sections of the spinal cord. He had obtained them through the kindness of Dr. Gray, of the Utica Asylum. They illustrated, in a very perfect manner, the typical spinal lesions found in the general paralysis of dementia.

#### PROLONGED UTERO-GESTATION.

DR. MRAVLAG reported a case, which he had recently observed, in which utero-gestation was continued six weeks beyond the full term. At a period when labor should have normally occurred, pains came on, but soon ceased. The child continued to show signs of vitality until its birth, which was effected with considerable difficulty. On extrusion, it was found to be a hemicephalus, measuring twenty-three inches in length, and weighing twelve pounds.

DR. MUNDÉ instanced a case in which pregnancy was continued for three hundred and forty-one days.

DR. NOEGGERATH stated, that according to Prussian State Law, three hundred days was allowed as the normal duration of pregnancy. But several observers, among them Kilian and Stein, had reported cases in which gestation had continued for a considerably longer period. The infants in those cases were, as a rule, quite small.

#### PREGNANCY COMPLICATED BY THE PRESENCE OF AN OVARIAN CYST.

DR. NOEGGERATH narrated a case of this kind. When he saw the patient for the first time, she was four months pregnant. An examination revealed the presence of two tumors—one to the right, the other to the left of the umbilicus. Palpation elicited the occurrence of unmistakable contractions in the tumor of the right side, whereas the other tumor was found to present fluctuation. The latter growth could also be felt in Douglas's pouch. The physician in charge performed an exploratory puncture of the supposed cyst, but was unable to draw off any fluid. He employed a syringe armed with a large canula. A second attempt of this kind also proved negative, the needle coming upon a hard mass. Following these procedures the tumor gradually diminished in size, and excited a suspicion of extra-uterine pregnancy, although a positive diagnosis of this kind was not made.

Dr. Noeggerath then made a third puncture, using, however, a needle of very fine calibre. This time a somewhat viscid fluid was withdrawn. It proved to be the fluid characteristic of ovarian cysts, and thus positively established the first diagnosis.

In this connection he took occasion to say that needles with sharp-cut edges very readily became filled with blood, coagulation of which prevented the further entrance of fluid. It was this circumstance which had brought about the negative results of the first two trials in the present case. The needles which he was in the habit of using for purposes of exploratory puncture had rounded points, and thus facilitated the entrance of liquids.

In reply to a question from Dr. Mundé, Dr. Noeggerath said that when we were dealing with large cysts, punctures per vaginam should not be made, but that they should be practised high up at the abdomen. In this way the exit of fluid into the peritoneal cavity was most effectually prevented.

#### DIPHTHERITIC STENOSIS OF LARYNX—TRACHEOTOMY—RECOVERY.

DR. CAILLÉ reported a case of the above occurring in a child, aged four years. When first seen the little girl had diphtheritic patches on both tonsils. There was swelling of the submaxillary glands, and the constitutional symptoms of a moderately febrile disease. Three days later, both local and general symptoms had subsided, and the child was apparently well. She remained in this condition for five days, when she rather suddenly developed a hollow-sounding, voiceless cough, and complained of dyspnœa. There was a slight febrile movement, but no visible membranes in the fauces.

Tracheotomy was performed, and although the incision assumed a diphtheritic appearance, the child quickly recovered. He thought that in this case the inflammatory process had either slowly and insidiously crept from the fauces into the larynx, or that two separate attacks with different localization had been present.

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*Stated Meeting, June* 24, 1881.

DR. SCHARLAU, PRESIDENT, IN THE CHAIR.

SPINAL APOPLEXY IN A CASE OF CHRONIC MYELITIS.

DR. RUDISCH related a case of the above as follows: The patient was a man, fifty years of age (he was exhibited before the society), and gave a well-marked history of acquired syphilis. Some three years ago he suddenly fell to the ground, and was unable to move his legs. There was also a burning sensation in his bladder. On the day following this accident, he was able to move his legs slightly. The urine had to be drawn off with a catheter. Three weeks later he was again able to walk, but still felt weak and unsteady. His bowels had moved spontaneously about every fifth day. He continued to improve, but suffered occasional relapses.

At present there is a partial paralysis of both legs, the right one being especially wasted by atrophy. Occasional muscular contractions take place. Tonic and clonic spasms likewise occur on flexion. There is some tremor. The bowels are irregular in their action. There is no formication or other disturbance of sensation. Galvanic and faradic reaction are both increased. The tendon reflex is considerably exaggerated on the right side. He was inclined to regard the case as one of chronic myelitis, involving the anterior and lateral columns. The probable seat of the hemorrhagic lesion was in the lower portion of the dorsal part of the cord.

DR. JACOBI differed from Dr. Rudisch in his interpretation of the case. He thought that the rapid improvement in the patient's condition militated against the idea of a hemorrhage. For a bloody effusion would hardly be absorbed before the fourth or fifth day. He believed that obstruction of circulation had interfered with the blood-supply of a limited territory of the spinal cord. Probably a specific endarteritis was at the bottom of it all. Heubner had described just such cases; and he had seen several himself. There had variously been either absence or presence of premonitory symptoms in the different cases. Wunderlich had described an instance of this kind with distinct prodromal symptoms, in Volkmann's series of clinical lectures.

TRAUMATIC OPHTHALMOPLEGIA.

DR. GRUENING showed a young man who was suffering from an ophthalmoplegia of the left eye. Some time ago the patient had been struck with the fist, the blow falling directly upon the left eye. On his arrival at home he was found to be blind. An examination soon afterward revealed extensive ecchymoses and paralysis of the lid.

The eye was immovable, indicating paralysis of the motor oculi, abducens, trochlear and optic nerves. The pupil showed no reaction to direct light, but a slight one on illumination of the sound eye. The ophthalmoscope revealed no point of special interest.

At present the patient was able to slightly move his eye, but the sound pupil showed no reaction on exposing the other one to direct light. The functional activity of the optic nerve was, therefore, completely abolished on the left side, whereas the oculomotor nerve was only in a condition of paresis. He thought that the orbital pyramid must have sustained a fracture, resulting in a tearing of the optic nerve. The effusion of blood doubtless explained the other symptoms, by the pressure it exerted upon the nerves which course through superior orbital fissure. The prognosis in this case was not favorable. His treatment consisted in the use of electricity and the exhibition of iodide of potassium and strychnia, the latter hypodermically.

In answer to a question from Dr. Jacobi, asking what results were to be expected from the use of strychnia, Dr. Gruening stated that this drug was credited with a specific action on the retina. Personally, however, he had not hitherto seen any such action.

DR. JACOBI thought that strychnia might prove serviceable later on in the course of the disease, when anæmia became manifest.

ABSCESS OF THE BROAD LIGAMENT.

DR. HEINEMANN presented a specimen illustrating the occurrence of an abscess in the left broad ligament. The patient was twenty years old and single. About one year ago a tumefaction was first noticed. Injury had not preceded the development of the disease. She was admitted to the Roosevelt Hospital, where the gradually growing abscess was opened by an incision above Poupart's ligament. Pus and fecal masses escaped after the operation, and the patient finally died of exhaustion.

At the autopsy an abscess was found starting from the left broad ligament, and perforating into the pelvic cavity. Owing to the presence of extensive adhesions, the abdominal cavity had not become involved. An intestinal communication, which had undoubtedly existed during life, was not discoverable.

RUPTURE OF A FATTY HEART.

DR. HEPPENHEIMER presented a specimen of the above, which he had removed from the body of a woman who had died suddenly. The left ventricle showed a rupture, and the entire organ was altered by fatty changes.

FIBROUS CYSTO-SARCOMA OF THE BREAST.

DR. JACOBI presented a specimen, consisting of a tumor about the size of an English walnut, which he had removed from the breast of a young lady aged sixteen years, a short time ago. The growth weighed five hundred and forty-five grammes, and was mainly composed of a firm stroma surrounding serous cysts. No swellings had been found in the axilla.

ATROPHY OF FINGER-NAILS.

DR. SEESSEL reported the occurrence of ungual atrophy occurring in a child, and recently observed by him. After recovery from an attack of croupous pneumonia, the patient developed several abscesses. One of them was situated in the axilla, and, by pressing upon the nerves, caused an atrophy of the finger-nails. Regeneration of the atrophied nails subsequently took place. This was a purely trophic, in contradistinction to the so-called vaso-motor disturbance.

## NEW YORK ACADEMY OF MEDICINE.

*Stated Meeting, October* 20, 1881.

FORDYCE BARKER, M.D., LL.D., PRESIDENT, IN THE CHAIR.

### RECLAMATION BY DR. DÉCLAT.

THE PRESIDENT acknowledged the receipt of a volume published by Dr. Déclat in 1865, in which was set forth a new therapeutical use for carbolic acid. In a paper read by Dr. Sims, at the last stated meeting of the Academy, allusion was made to certain advantages which were to be gained by prompt operations within the peritoneal cavity, and they were largely the outgrowth of the knowledge which the profession had derived of antiseptic measures embraced under the general term Listerism, a word now in common use. The volume was accompanied by a letter which he had received from Dr. Déclat, containing a reclamation, with considerable evidence in support of the assertion that he antedated in priority the observations and publications of Lister by several years. The book and the letter would be placed in the archives of the Academy, where they could be consulted, thus affording opportunity to study Dr. Déclat's claims, and each could then settle the question in his own mind.

The following is an abstract of Dr. Déclat's letter. It was addressed to the President of the New York Academy of Medicine, and was written to establish two points:

*First.*—That he claimed the priority of the so-called antiseptic method.

*Second.*—That the system of Lister was both imperfect and incomplete.

"His first publication, in 1865, which he sent to Sir James Simpson, of Edinburgh, was the starting-point of the first application of carbolic acid by Mr. Lister in that city in 1867, two years later, and *six* years after his public application of the remedy at the Hôpital St. Jean de Dieu, in the presence and with the co-operation of Dr. Gras and Professor Maisonneuve, who took it upon himself to communicate it to Professor Simpson, who accused Lister of plagiarism in claiming that discovery; and Dr. Sanson, the authorized translator of Lister's works, admits my claim."

Dr. Déclat presented to the Academy his book written in 1865, and also referred to an extract in Pasteur's work on beer-fermentation (p. 44), where that eminent scientist clearly defined his rights to priority, after having alluded to Mr. Lister. The extract says: "Dr. Déclat has created a new system of medicine founded on the employment of one of the best-known antiseptics (carbolic acid), namely, that transmissible diseases are each the product of a special ferment, and that medical and surgical therapeutics must try and prevent the penetration of ferments coming from without into the liquids of the economy, or, if they have penetrated, to find antiferments to destroy them without diminishing the vitality of the histological element of liquid and tissues."

Dr. Déclat also referred to the *Bulletin Officiel des Comptes Rendus de l'Académie des Sciences de Paris, du* 11 *mars*, 1878, in which Professor Sédillot saw fit, a majority of the Fellows being present, to establish the priority of his claim. Dr. Déclat continued: "I have said that the Lister method is imperfect in two ways: First, because in most wounds and operations we should put aside the carbolic spray, with its many inconveniences, and replace it by a direct cauterization of the tissues, operated upon by means of a solution of about equal parts of carbolic acid and alcohol, followed by a carbolic dressing. The Lister method is incomplete, because it does not realize the second part of the antiseptic therapeutics, as it only partially prevents the penetration of ferments from the exterior. Neither Mr. Lister nor Dr. Sims (I think) has done anything to destroy them once they have penetrated into the liquids of the economy, and there is septicæmia or pyæmia; but this addition to the antiseptic treatment is the more important since it applies both to medicine and surgery. It consists in introducing with impunity into poisoned liquids, tissues, or organs, antiferments and chemically pure *acide phénique, sulfo-phénique, iodo-phénique*, and *acide salicylique* by means of draughts (enemata), and, above all, by hypodermic injections in large doses. The greater part of the accidents that have happened in surgery can be traced to the presence of volatile bodies, *acide crézilique, l'acide rosacique*, and *rasoline*, which are present even when the carbolic acid is in crystals. In the hands of the followers of Lister a patient stricken with septicæmia is not curable; while the patient has many chances of recovery by the internal antiseptic treatment."

DR. A. C. POST exhibited plaster-casts illustrating the condition of the hands before and after the operations for the relief of the deformities, in a case which he had already reported to the New York Surgical Society.

DR. PASSMORE, of Brighton, England, was introduced to the Academy, and invited to a seat upon the platform.

### LESIONS OF THE ORBITAL WALLS AND CONTENTS DUE TO SYPHILIS.

DR. C. S. BULL read a paper on the above subject, in which he restricted his remarks to the study of the lesions of the bones, and the adipose and connective tissues of the orbit. These lesions were not a common, though by no means a rare manifestation of syphilis. The lesions considered were osteitis, periostitis—singly and combined, periostosis, hyperostosis, exostosis—of which two or more might coexist, caries and necrosis involving perhaps only a small portion, and possibly the entire thickness of the bone invaded. According to most authorities those lesions belonged to the late manifestations of the disease; but Dr. Bull thought that they might occur earlier than had usually been supposed. They were more common in hereditary than in acquired syphilis, and in warm than in cold latitudes. The earlier periostitis was much less indolent than that which appeared later, and was never followed by exostosis or hyperostosis.

The symptomatology of these different lesions was illustrated by cases, and the treatment of each variety was considered in detail. Mercury and iodide of potassium were the drugs chiefly used in the medicinal treatment, and in some cases it had been found necessary to reach very large doses of iodide of potassium before the symptoms of the disease began to yield.

DR. J. W. S. GOULEY complimented the author of the paper upon the value and completeness of his contribution, with reference to both the pathology and symptomatology of syphilitic lesions of the orbit, and then proceeded to speak of treatment, both medical and surgical.

With reference to treating the early manifestations of syphilis with free doses of mercury, and

later with full doses of iodide of potassium, advocated by Dr. Bull, he believed that a great deal more harm than good followed the indiscriminate use of mercurials and iodide of potassium. He thought it was unnecessary to touch the gums, and, especially, the patient should not in the least be ptyalized. Mercury should be given in sufficient quantity to produce certain effects without producing ptyalism. In none of his syphilitic patients did he give more than minute doses, by the mouth, of the corrosive chloride or the biniodide of mercury, accompanied by inunction, and he never expected to see any symptoms of ptyalism. He often began with one-fiftieth of a grain of the corrosive chloride, using, at the same time, inunction first upon one side of the body, and then the other, watching its effect closely, and suspending its use every month or every two months. He uses the iodide of potassium still more cautiously, for heroic doses may produce most alarming symptoms, and give rise to diseases which become absolutely incurable, such as sclerosis of the kidneys. He had known a number of cases in which death was caused by the administration of the iodide of potassium for months—for six months, beginning with a drachm daily, and gradually increasing the quantity until the patients took an ounce of the drug daily. Those were abuses which should cease, and which might be considered as malpractice.

A very distinguished English surgeon had passed to the other extreme, by saying that he could produce all needed results with five-grain doses. Dr. Gouley believed that such doses were too small. He thought that twenty grains, given three times a day, or fifteen grains four times daily, would accomplish all that was done in Dr. Bull's cases by the administration of two drachms or more daily.

With regard to surgical treatment, he would not be willing to undertake an operation upon any case of orbital necrosis until the patient had been kept under the influence of medicinal treatment for some time, and his general condition improved as much as possible, except in certain cases where abscesses existed. In those cases he would give free vent to the pus, remove loose pieces of bone, and then put the patient upon constitutional treatment.

With reference to exostoses, which were usually late symptoms, there was no doubt concerning the propriety of their removal by surgical means.

Dr. Knapp said that he had no great experience on the subject of Dr. Bull's instructive paper, yet a few cases which he recollected might be worth relating. He had seen, several times, *acute circumscribed periorbitic swelling* in syphilitic persons, who recovered quickly under mercurial treatment.

He had in mind a case of *chronic periostitis* of the inner part of the superior orbital margin, which for two years had occasionally formed an abscess, opened, and discharged a puriform liquid. The syphilitic origin was not clear, yet the patient was cured by iodide of potassium.

Another case had greatly excited his interest. It was that of a man over fifty years of age, who had contracted syphilis when about twenty. Several years later the region of his brows began to swell, and in the course of years, with repeated inflammatory aggravations, developed into a hard, uniform prominence—a true *hyperostosis*, constituting a marked deformity, upon which mercurials and iodides had no influence whatever.

Another case was still more vividly in his mind. A man had had a primary affection about fifteen years ago; then, in the course of years, different manifestations of unmistakable constitutional syphilis, among which, periostotic swelling of several bones. At last he had *diffuse periostitis of the orbital walls*, especially the upper—not very painful to the touch, but with intense, spontaneous pain. There was exophthalmus, but no lesion of the eye—in particular no neuro-retinitis. Complete and permanent recovery was obtained by a course of mercurial treatment, chiefly inunction, for several months.

Dr. O. D. Pomeroy had recently had a case which illustrated one point in the subject. The initial lesion of syphilis occurred about six months before the development of an abscess just beneath the superciliary ridge, and extending into the roof of the orbit, without displacing the eyeball. The patient had abscesses in other regions, but otherwise the syphilitic symptoms were but few. He opened the abscess, found dead bone, placed the patient upon constitutional treatment, and recovery was exceedingly rapid.

With reference to the size of dose of different remedies, he gave the least amount possible to produce the desired effect. He regarded the $\frac{1}{14}$ of a grain of the bichloride of mercury as a large dose. Intermittent inunction with mercurials he regarded as beneficial. His belief in the efficacy of the iodide of potassium was "extremely shaky." Small doses, according to his observation, affected some patients in a marked manner.

With regard to etiology, he thought that injury, in many cases, excited the disease into virulent activity. In the treatment of diseases of the tear-duct he had frequently seen orbital lesions, and could corroborate Dr. Bull's statement that sequestra, as a rule, were absent in cases of necrosis in that region.

The President, with reference to excessive doses of iodide of potassium, was rather surprised at the strong statements made by Dr. Gouley, and yet he was well aware that very large doses of the drug were frequently given in the city of New York. He then referred to a case of ataxia due to syphilis, in which there was complete paraplegia, with paralysis of the bladder and rectum. To that patient he gave a drachm of the iodide of potassium three times daily, beginning with twenty-grain doses, and an entire cure had been effected.

In another case he was giving large doses, but should begin to diminish the quantity, in consequence of what he heard during the discussion.

Dr. Gouley had for ten years, and in accordance with a suggestion which he received from Dr. Meredith Clymer, been using the iodide of sodium instead of the iodide of potassium, believing that it was the potassium, and not the iodine, which was the toxic agent. He had found that large doses of iodide of sodium were much better borne than were equally large doses of iodide of potassium; and besides, the sodic salts in the same quantity had no tendency to produce sclerosis of the kidneys. He condemned the excessively large doses of iodide of potassium so frequently given, and believed that the physician who gave an ounce of the drug daily, and continued it for weeks and months, was guilty of malpractice. The syphilis might be cured, but the patient very likely would be killed by the chronic interstitial nephritis developed by this excessive and prolonged administration of the iodide of potassium.

As was well known, there were patients who could not tolerate the minutest doses of iodide of potas-

sium, while there were others who required very large doses. In his belief the latter were more likely to be harmed by the drug, for their stomachs tolerated the large doses, but in the end their kidneys suffered. He had had patients who could not bear a single grain at a dose, and others who required very large doses, but the latter had always given him great anxiety. He had known a most violent hæmaturia to follow the use of forty grains of the iodide of potassium three times a day, and continued for two weeks. The symptom disappeared within a few days after discontinuing the drug, and afterward he was careful to give smaller doses.

Dr. A. W. Stein believed that it was impossible to treat every case of syphilis without touching the gums, however great the precaution taken might be. Of course, no physician would administer a drug to the production of its physiological effects when its therapeutical effects could be produced by much smaller doses. Salivation should be avoided if possible; but some patients were so susceptible to the influence of mercury that even the smallest doses would affect their gums. Further than that, he had treated cases at the Charity Hospital in which the secondary symptoms did not yield until the gums were slightly touched, and he had not seen any harm follow such a manifestation of the physiological effect of the drug.

With reference to the iodide of potassium, his practice was to begin with ten-grain doses. He had seen patients who could not bear five-grain or even three-grain doses; but there were those who could bear much larger doses than ten grains, and whose symptoms would not yield until the larger doses were reached. In cases of rapidly progressing osteitis and periostitis, or other grave manifestations of syphilis, he was not disposed to trifle with the disease by giving small doses of the iodide of potassium, especially when many cases were seen in which it was only when drachm doses were reached that the symptoms began to yield, and then the recovery was rapid. He did not doubt that the prolonged use of large doses might do damage to some of the organs of the body; but it was unnecessary either to resort to them in all cases, or to continue them for a great length of time. Perhaps we had gone to the extreme in using large doses, but he hoped that we should not fall back to the old method of using insufficient doses.

Dr. E. H. M. Sell referred to a case in which iodide of potassium invariably aggravated the symptoms. Iodide of sodium was substituted, and, although administered in only five-grain doses three times daily, the gummata and other manifestations of syphilis rapidly disappeared. He disapproved of the use of excessive doses of the iodide of potassium.

Dr. Bull, in closing the discussion, said that, in the first place, he had no intention of starting a therapeutical discussion; and secondly, that he did not wish to be understood as underestimating the danger attending the administration of too much mercury and iodide of potassium. For many years he had not produced any marked symptoms of salivation. Nor, on the other hand, should he consider himself guilty of malpractice if he should administer half an ounce of the iodide of potassium three times a day, if such doses were necessary. There were cases which would not yield to small doses, and what had been called excessive doses were necessary to effect a cure.

Granted the existence of sclerosed kidneys, associated with a corresponding change in the liver; post-mortem in a syphilitic subject, he believed that the renal change and the condition of the liver were due to the syphilis rather than to the potassium iodide.

The Academy then adjourned.

## Correspondence.

### ON GUITEAU'S INSANITY.

To the Editor of The Medical Record.

Dear Sir—In a late number of The Record (October 22, 1881), you have the following passage: "He has that form of monomania which has been described by the German writers as *primäre Verrücktheit*, and by others as partial intellectual insanity."

The term *primäre Verrücktheit* is not in the least identical with the term "monomania," which might be rather rendered by *partielle Verrücktheit*, as it is a partial insanity, more especially by that form of partial insanity that has been described as paranoia (Kahlbaum). But it would be in the interest of an exact diagnosis if the term monomania, of Esquirol, which has already early been criticised by Foville and Prichard, would be altogether disused. Most of the monomanias described by Esquirol, such as kleptomania, pyromania, etc., are only symptoms of larger groups of insanity, such as hysterical and epileptical insanity, for instance.

The psychological school of alienists (Guislain, Griesinger, etc.) had the opinion that all insane persons are passing through certain well-characterized phases of psychopathological phenomena; those stages being: (1) melancholia and mania, or the emotional stage; (2) *Verrücktheit* (secondare), delusional insanity, or the intellectual stage; (3) *Blodsinn* (dementia), the negative stage, or the stage of general deficiency.

This division had its foundation in the psychologi- theories then in vogue, being based on the entity of the soul and its three principal functions, emotion, thought, and will. There is a form of insanity that is congruent to this description, the vesania typica.

How erroneous the belief is that aberration almost always begins with melancholy (Guislain and Griesinger), may be seen from the following statistical table of Witkowski (*Berl. klin. Wochenschrift*, No. 50, 1876): In sixty-five cases the premonitory symptoms were as follows—In 19 patients, melancholy; in 17 patients, mania; in 26 patients, delusional insanity (*Verrücktheit primäre*); in 3 patients, dementia.

Modern alienists, studying the forms of insanity from a clinical point of view, have established certain groups of clinical entities, among which *primäre and originäre Verrücktheit* has found a well-recognized and important place. The term *primäre Verrücktheit* (idiopathic disease) is used in contrast to *secondäre Verrücktheit* (only a symptomatic stage).

To discuss the particular form of insanity from which Guiteau is said to suffer is premature, before a detailed and well-authenticated biographical sketch is published, but it may be safely surmised, from facts known so far, that his insanity, if such will be proved, has to be one of the following two: either *primäre Verrücktheit* (delusional insanity), or diathetic and hereditary (neurotic) insanity.

J. J. Friedrich, M.D.

332½ East Fiftieth Street, New York.

[Partial insanity, monomania (of Prichard), and delusional insanity are used as synonymous terms.—Ed.]

To the Editor of The Medical Record.

Dear Sir: The editorial on the question of Guiteau's insanity in your recent issue, assumes seriously that Guiteau had delusions—shall I say insane delusions. What evidence is there in support of this assumption? If I take up his own published narrative of the motive or motives that impelled him to kill President Garfield, I find that he "removed" his victim "as a political necessity." What was this political necessity? It was the necessity of uniting the Republican party under Stalwart control. He committed a crime for a political end, and with the secret hope, as I suspect, of profit to himself should that end be accomplished. Whether he succeeds or not, is there any appearance of delusion either in the conception of his end, or in the method by which he sought to attain it? It does not seem to me that there is.

It is true Guiteau professes to have acted under "Divine pressure." I take note of this, but I call to mind also that there is no small share of cant in this broad country.

It is too early to make up our minds—it is positively too soon to pass judgment on the mental quality of Guiteau's deed. But it is not too early to get a mental hold of certain elementary, yet necessary, truths respecting the relations of insane people generally to the question of legal responsibility.

In the first place, it is an error to infer, as do some physicians, and many, perhaps the majority, of laymen, that the insane are not responsible for their acts. This is too sweeping an inference. In relation to the question of legal responsibility, the insane need to be classified under two distinct heads, viz.: 1, Insane people more or less responsible; 2, insane people not responsible.

In the second place, the ground of all classifications of *the insane* relative to their legal responsibility lies in the following question: Is the criminal act, so to speak, the *logical*, or, if you choose, *psychological* outcome of the agent's delusion, of his hallucination, of his insanity, in short? If the evidence affirms this, the agent is not responsible; if it negatives this, he is responsible, though *quo ad* his insanity, the degree of his responsibility remains to be decided.

To establish the innocence of an indicted offender who interposes the plea of insanity as his chief defence, it is not enough to prove that he was insane at the time of his offending; there should be, also, reasonable proof, in my judgment, that his offense was the logical or psychological outcome of his *insane* notions, beliefs, impulses.

James J. O'Dea, M.D.

Stapleton, Staten Island, N. Y.

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Dr. Talmy, an eminent surgeon of the French navy, has gone to the coast of Senegal to make a study on the spot of the recent terrible outbreak of yellow fever. Dr. Talmy's direct object is to determine the application to this disease of M. Pasteur's new theory of specific inoculation as a preventive against epidemics.

Leprosy in New Brunswick.—Dr. Tache, Deputy Minister of Agriculture, who was sent by the Government to the Tracadie (New Brunswick) Lazaretto to make a report on leprosy, states that so little is the disease understood, that it will be some time before a report can be prepared. He found the disease diminishing, there being at present only nineteen lepers.

# Obituary.

## BENJAMIN FRANKLIN BACHE, M.D.,

MEDICAL DIRECTOR AND COMMODORE, U. S. NAVY.

Medical Director Benjamin Franklin Bache, a great-grandson of Benjamin Franklin, and for nearly sixty years an officer in the United States Navy, died at his residence, Brooklyn, November 1st, after an illness of only two weeks. Dr. Bache was born in Monticello, Va., February 7, 1801, and so was in the eighty-first year of his age. He was a grandson of Richard Bache and Sarah Franklin Bache, the only daughter of Benjamin Franklin.

Dr. Bache was graduated from Princeton College when only eighteen years old, and from the medical department of the University of Pennsylvania four years later. He entered the United States Navy as Assistant Surgeon in 1824, a year after his graduation, and in 1828 he was promoted to the rank of Surgeon. From 1838 to 1841 he was Fleet Surgeon of the Mediterranean squadron, and he was in charge of the Naval Asylum in Philadelphia from 1845 to 1847. He was Fleet Surgeon of the Brazilian squadron from 1848 to 1850; was in the Naval Hospital in New York from 1850 to 1854, and was Director of the laboratory of the Brooklyn Navy Yard from 1855 to 1872. He was retired February 1, 1863, and in 1871 he was appointed Medical Director, with the relative rank of Commodore. While he was engaged in the laboratory of the Brooklyn Navy Yard, in 1861, at the outbreak of the civil war, his knowledge as a chemist, and his unquestionable honor, made a valuable help in the time of his country's need.

Finding that the supplies and drugs then furnished to the Government were poor in quality and deficient in weight, he undertook to reorganize the department. He thus met with determined opposition from many influential persons, who hoped to profit by the unlawful schemes of the contract system, and obstacles were thrown in his way that would have discouraged most men. He took the samples that were furnished by contractors, analyzed them, and compared them with those actually delivered, and finding, in many cases, that they were not as had been represented he condemned them, and thus saved the Government millions of dollars. The laboratory, under Dr. Bache's administration, became one of the most thoroughly equipped and efficient branches in the service. Dr. Bache was quiet and modest in disposition, possessing a great range of knowledge. There were few subjects with which he was unfamiliar. As a student, a chemist, a traveller, and an observer he was received in social circles everywhere with profound consideration. He was a brilliant conversationalist, and recited by the hour experiences and observations in his long life of the most entertaining character. He bore a strong resemblance to his distinguished ancestor; and his side face was almost the counterpart of that shown in the best pictures of Benjamin Franklin. He was severe in his detestations of shams of every kind, and never hesitated to denounce them, without regard to person or position. He leaves a widow and three married daughters, the wives of Drs. Bates and Bogert and Capt. Charles L. Huntington, all of the United States Navy. His sister is the wife of Dr. E. R. Squibb, of Brooklyn, N. Y.

## ARMY NEWS.

*Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from October* 30, 1881, *to November* 5, 1881.

KOERPER, E. A., Capt. and Asst. Surgeon. Relieved from further duty at Yorktown, Va., and to proceed to Plattsburg Barracks, N. Y. S. O. 191, Department of the East, November 3, 1881.

SKINNER, J. O., Capt. and Asst. Surgeon. Relieved from duty as Acting Medical Purveyor in the field, and to proceed to his proper station, Whipple Barracks, A. T. S. O. 123, Department of Arizona, October 26, 1881.

HALL, W. R., Capt. and Asst. Surgeon. Granted leave of absence for one month. S. O. 224, Department of the Missouri, November 2, 1881.

ARTHUR, WM. H., First Lieut. and Asst. Surgeon. Relieved from duty at Fort Sanders and assigned to duty at Fort Washakie, Wyo. T. S. O. 110, Department of the Platte, October 29, 1881.

The following named medical officers will report in person without delay to the Commanding General Military Division of the Atlantic, for temporary duty with regiments about to change stations. Upon completion of their duty with these regiments, to report by letter to the Surgeon-General: First Lieuts. and Asst. Surgeons E. C. CARTER, H. I. RAYMOND, T. J. C. MADDOX. S. O. 248, A. G. O., November 3, 1881.

APPOINTMENTS

To be Assistant Surgeons, with the rank of First Lieutenant:

EDWARD C. CARTER, of New York, October 22, 1881, vice PHILLIPS, deceased.

HENRY I. RAYMOND, of New York, October 22, 1881, vice OTIS, promoted.

THOMAS J. C. MADDOX, of New York, October 22, 1881, vice SMITH, resigned.

RICHARD W. JOHNSON, of Minnesota, October 22, 1881, vice JAQUETT, promoted.

G. O. 77, A. G. O., October 31, 1881.

## Medical Items and News.

CONTAGIOUS DISEASES — WEEKLY STATEMENT. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending November 5, 1881.

| Week Ending | Typhus Fever. | Typhoid Fever. | Scarlet Fever. | Cerebro-spinal Meningitis. | Measles. | Diphtheria. | Small-pox. | Yellow Fever. |
|---|---|---|---|---|---|---|---|---|
| Oct. 29, 1881. | 0 | 36 | 121 | 5 | 12 | 101 | 22 | 0 |
| Nov. 5, 1881. | 0 | 32 | 125 | 3 | 18 | 98 | 16 | 0 |

CASES OF NERVE-STRETCHING.—In the Manchester Royal Infirmary the operation of nerve-stretching has been lately performed *(Lancet)* by Mr. F. A. Southam upon three patients. These were in cases of idiopathic lateral sclerosis, locomotor ataxia, and clonic spasm of facial muscles. In all cases considerable relief was obtained.

THE GROWTH OF MEDICAL LANGUAGE.—In an introductory address delivered by Dr. G. Vivian Poore. at the opening of University College, London, the following from Cowper is made the text of some very sensible remarks:

> "Knowledge and wisdom far from being one,
> Have ofttimes no connection. Knowledge dwells
> In heads replete with thoughts of other men;
> Wisdom in minds attentive to their own.
> Knowledge . . . . . .
> Till smoothed, and squared, and fitted to its place,
> Does but encumber whom it seems to enrich.

"There is one branch of medical knowledge," said the speaker, "which most certainly 'does but encumber whom it seems to enrich,' and this branch is medical language.

"The unwieldy proportions which this cumbersome branch of medical knowledge has assumed, may be judged of by the dictionary of Medical and Scientific Terms which is now in course of publication by the New Sydenham Society. This dictionary already consists of eight hundred closely printed, large octavo pages, and the compilers have yet reached only the third letter of the alphabet. At the present rate the completed work will consist of over 8,000 pages, containing more than 300,000 terms!"

HEALTH OF SCHOOL CHILDREN AS RELATED TO OUTSIDE STUDY AND RECREATION.—Dr. L. B. Tuckerman, of Cleveland, O., sends us the following notes in regard to the health of the eight hundred pupils in the Cleveland High School. They were the results of personal investigation by a physician. "The most important fact developed," he says, "was the relation of ill health to the number of hours spent in study outside of school, and that it takes a girl, on the average, longer to do the same amount of mental work, thus dividing them into four classes—those that study less than two hours at home, those that study two hours or less than four, four hours and less than six, six and over, we have:

| | 0-2 | 2-4 | 4-6 | 6- |
|---|---|---|---|---|
| Boys.....per cent. | 25 | 65 | 5 | 3 |
| Girls.....per cent. | 8 | 47 | 38 | 6 |

"The number of the boys was too small to base any definite conclusions upon, but with the girls, one hundred and eighty-six in number, the facts were as follows:

| | 0-2 | 2-4 | 4-6 | 6- |
|---|---|---|---|---|
| Health poorer while at school.....per cent | 29 | 70 | 93 | 100 |
| Health very poor while at school.....per cent. | 14 | 40 | 66 | 100 |
| Appetite deranged while at school.....per cent. | 7 | 44 | 47 | 69 |
| Sleep deranged while at school.....per cent. | 7 | 18 | 37 | 69 |
| Troubled with headache while at school..per cent. | 22 | 62 | 81 | 100 |
| Troubled with back- or side-ache while at school, per cent. | 14 | 24 | 57 | 45 |
| Troubled with weak eyes..... | 29 | 39 | 36 | 42 |
| Eyes failed since the pupil entered the High School | 14 | 13 | 18 | 17 |
| Menstrual symptoms were known.....No. | 5 | 40 | 31 | 9 |
| Menses same while at school.....per cent. | 80 | 50 | 19 | 67 |
| Menses deranged while at school..... per cent. | 20 | 50 | 81 | 33 |
| Menses frequent or profuse while at school, per cent. | 20 | 28 | 26 | 11 |
| Menses scanty, irregular, painful ..... | .. | 35 | 71 | 33 |

"Cases where the menses were both frequent, or profuse and painful, were tallied simultaneously in each class, hence the apparent discrepancy in the percentages.

"The gain in health as the pupils indulge more freely in social relaxation is correspondingly marked. The parents of seventy-six of the one hundred and

eighty-six girls, attributed their trouble in part to the stair-climbing. The irregularity of meals, necessitated by the one-session system, the worry about rank and examinations, were assigned as causes by others."

THE ALLEGED INCREASE OF INSANITY.—There were in Great Britain on January 1, 1880, 73,113 insane. This is an increase of 1,922 during the previous year. The increase, however, is due in part to the fact that many pauper insane have been transferred from almshouses to asylums. The Lunacy Commissioners have prepared a new tabular statement, which shows the ratio per ten thousand of persons admitted to lunatic asylums during the past twenty years. It is as follows: The number admitted per ten thousand in 1869 was 4.71; 1870, 4.54; 1871, 4.62; 1872, 4.59; 1873, 4.80; 1874, 5.03; 1875, 5.19; 1876, 5.30; 1877, 5.28; 1878, 5.36; 1879, 5.20; 1880, 5.19.

From these figures it appears that the steady proportional increase of insanity, which continued to 1875, has since then ceased to go on for the last five years. It may be that the maximum proportion of insane to the population in Great Britain has been reached.

IS THERE A SPECIFIC URETHRITIS?—Dr. P. Albert Morrow (*New York Medical Journal and Obstetrical Review*, September, 1881), asserts that the position of the virulists rests altogether upon pure hypothesis, and is wholly untenable, while all the facts—experimental, clinical, and pathological—are overwhelmingly in favor of the non-specific character of gonorrhœal inflammation. If the experiments of De Luca, and others of like character, showing that the clear, transparent liquid which escapes from the cervix becomes contagious, when from any cause whatever it becomes charged with purulent globules, are to be accepted as true, it is necessary to renounce for ever the idea of the specificity of gonorrhœal pus. In all specific diseases there is between the time of infection and the first expression of the disease a period of incubation. No incubation, properly so-called, characterizes gonorrhœa—no more than there is between the chilling of the feet and the appearance of coryza, as Ricord pointed out, or between the action of the exciting cause of bronchitis or pneumonia and the appearance of the suppurative symptoms. A drop of this same gonorrhœal pus, which may require two or three days to excite suppuration of the urethra, will develop such effect in a few hours when applied to the conjunctiva, showing that the so-called incubation depends, not upon the quality of the exciting cause, but upon the susceptibility of the mucous membrane. Another distinctive peculiarity is that a single attack of the disease confers almost complete security from another attack—a peculiarity precisely the opposite of what is observed of gonorrhœa. One attack seems to establish a predisposition to a second, and the more numerous the attacks the more easily the disease is contracted anew, showing its analogy with other catarrhal inflammations.

Again, the morbid poison of a specific inflammation once in action, continues until the textural predisposition to its special stimulus is exhausted, the patient is incapable of regenerating the poison or of being affected by it when exposed anew. Both of these conditions are negatived in the clinical history of gonorrhœa. Dr. Morrow ridicules the idea of the contagium lying dormant in the system for months, and capable of being awakened and revivified into dangerous activity under the influence of any cause, either of external or of internal origin.

The experiments made with gonorrhœal pus for the cure of panus, leave no possible doubt as to the interchangeable and identical nature of urethral and conjunctival inflammations. The experiments of Jaeger, Piringer, Van Roosbroeck, Walomont, Desmarres, Richard, and others, have proved conclusively that the same effect is produced upon the eye from whatever kind of purulent ophthalmia the matter of inoculation is taken—that the effect is still the same whether, instead of taking the mucopus from the eye, it is taken from the urethra. In Dr. Piringer's series of eighty-seven cases, the matter was taken from ophthalmia neonatorum in twenty-nine cases, from gonorrhœal ophthalmia in eleven cases, from the urethra of a boy three and a half years old in two cases, from acute ophthalmia (not gonorrhœal) in forty cases, from palpebral ophthalmia in two cases, from chronic ophthalmia in four cases. Van Roosbroeck employed indifferently pus from gonorrhœal, from infantile, and from purulent ophthalmia. The only difference observed in the effects of the matter from these various sources depended upon the activity of the inflammatory process which produced it.

The identity of the cause and nature of inflammations of the urethra and conjunctiva being thus demonstrated, he concludes, with Simon: "Obviously there is no sense, except one involving a *petitio principii*, in which the word specific can be applied to these communicable conjunctival inflammations, and if they are not specific, but common inflammations, where is the reason for believing that the communicability of gonorrhœa constitutes it a specific disease?"

DENTAL DIPLOMAS IN FRANCE.—A commission has been appointed by the Faculty of Medicine to report upon the study and practice of dentistry in France. They have decided to create a special dental diploma. Candidates for this will have to be twenty years old, must study dentistry two years in a school, and must have had one year's practical experience.

ON THE USE OF QUEBRACHO IN DYSPNŒA.—Dr. Andrew H. Smith's report to the Therapeutical Society (*New York Medical Journal and Obstetrical Review*, September, 1881) on the employment of this drug for the relief of dyspnœa, contains some points of interest. Of the thirty-two cases covered by this report, eleven were of spasmodic asthma, with or without emphysema and bronchitis. Of these, in nine cases the dyspnœa was notably relieved. In two cases of asthma, associated with bronchitis, no benefit resulted. One patient with emphysema and bronchitis, without asthma, was relieved. One with bronchitis, with obesity, was not relieved. Two with mitral insufficiency were not relieved. One with mitral stenosis was not relieved. One with hypertrophy, with dilatation, was not relieved. In two cases of cardiac disease (form not stated) the dyspnœa was relieved. In one case of fatty heart there was slight relief. Two patients with dyspnœa depending on Bright's disease, in one of whom pulmonary œdema was noted, were relieved. In one case of aortic aneurism, the dyspnœa was relieved till near the close. In one case of cancer of the lung, dyspnœa was relieved. In one case of tonsillitis, the dyspnœa, partly nervous, was relieved. In two cases of pneumonia it was relieved. One patient with hysterical dyspnœa was relieved. In one case of catarrhal phthisis, second stage, the dyspnœa was relieved.

In one case of catarrhal phthisis, third stage, it was not relieved. In one case of intermittent fever, with old pleurisy, the patient being an opium-eater, the dyspnœa was increased.

Thus, of the thirty-two cases of different diseases in which dyspnœa formed a prominent feature, this symptom was relieved to a greater or less extent in twenty-two; not relieved in ten; aggravated in one. Dr. Smith, in explaining the action of quebracho, thinks it acts upon the respiratory centre by blunting the sense of want of air, and thus mitigates the suffering from a deficient supply. The extremely disagreeable taste of the medicine and its tendency to produce nausea, are, however, serious drawbacks to its use by the mouth.

Vital Statistics of Massachusetts.—Some interesting facts connected with the death-rate and its causes in Massachusetts have appeared. They relate to the year ending December 30, 1880. The rates for the year per thousand were: births, 24.80; marriages, 8.71; deaths, 19.79.

The number of deaths in 1880 (namely, 35,292) was considerably in excess of that of any year in the previous quarter of a century. The very fatal epidemic of diphtheria has continued, with even a moderate increase over 1879; the diarrhœal diseases of infants have caused much greater mortality than for the preceding two years; the infectious diseases generally have risen to a higher number, and pneumonia has been excessively fatal. The greater number of deaths in 1880 has been recorded at nearly all ages, but to the greatest extent in infants and young children.

The order of fatality of the twelve causes producing the greatest number of deaths, places consumption easily at the head of the list as usual. Pneumonia is second, as it was the previous two years, and in 1874 and 1875; it was third in 1872, 1873, 1876, and 1877—always a leading source of mortality in Massachusetts. Cholera infantum, from having steadily fallen from the second place in 1872 and 1873, the third in 1874 and 1875, the fourth in 1876 and 1877, fifth in 1878, and sixth in 1879, has risen in 1880 to the third. Heart-disease was fourth. Diphtheria stands fifth—if croup were included with it the deaths would be 2,394 instead of 1,769, and its place would be third. Old age is sixth. Paralysis is now, for the fourth year, seventh. Cancer has risen from tenth. eleventh, and twelfth places to eighth, as it was also in 1879. "Cephalitis" was ninth in 1880; bronchitis, as in 1879, eleventh. Typhoid fever showed an extraordinary decline from the fourth place in 1872, sixth in 1873, seventh in 1874, eighth in 1875 and 1876, ninth in 1877 and 1878, to thirteenth in 1879, and has now risen again to tenth.

Digitalis not a Cardiac Stimulant.—Dr. Edward T. Tibbits (*Lancet*) argues against the modern theory of the action of digitalis as follows:

Digitalis used to be described as a cardiac sedative and depressant, and I believe, for all practical purposes, this is exactly the correct description at the present time. The reasons for such belief are as follows:

*First.*—Experiments prove as much its sedative action as any other, and, so far as I can make out, it is probably accidental whether, after poisonous doses, the heart is arrested in systole or diastole. Even supposing the stoppage took place in systole, that is only the condition said to be present in any form of fatal syncope.

*Second.*—In small doses it produces a feeling of depression and discomfort about the heart, with sometimes nausea or vomiting, if kept up for a time. In large doses, though arterial tension is at first increased, this soon gives way to lowered vascular tension.

*Third.*—Like many other narcotico-acrid poisons, it produces dilatation of the pupil.

*Fourth.*—Its action, as shown by clinical experience, is in many ways like that of such depressants as aconite, lobelia, tobacco, etc.

*Fifth*—It is of great value in cardiac hypertrophy (?), being second only to aconite.

*Sixth.*—Its diuretic action is probably due to dilatation rather than contraction of the small blood-vessels.

The Fresh-Air Habit.—Early impressions are very enduring, and can make useful habits as well as evil ones a sort of second nature. In order to forestall the chief danger of in-door life, make your children love-sick after fresh air; make them associate the idea of fusty rooms with prison-life, punishment, and sickness. Open a window whenever they complain of headache or nausea; promise them a woodland excursion as a reward of exceptionally good behavior. Save your best sweetmeats for out-door festivals. By the witchery of associated ideas a boy can come to regard the lonely shade-tree as a primary requisite to the enjoyment of a good story-book. "Or, mes pensées ne voulent jamais aller qu' avec mes jambes," says Rousseau ("Only the movement of my feet seems to set my brains a-going"), and it is just as easy to think, debate, rehearse, etc., walking as sitting; the peripatetic philosophers derived their name from their pedestrian proclivities, and the Stoic sect from their master's predilection for an open porch. Children who have been brought up in hygienic homes not rarely "feel as if they were going to be choked" in unventilated rooms, and I would take good care not to cure them of such salutary idiosyncrasies. Every observant teacher must have noticed the innate hardiness of young boys, their unaffected indifference to wind and weather. They seem to take a delight in braving the extremes of temperature, and, by simply indulging this penchant of theirs, children can be made weather-proof to an almost unlimited degree; and in nothing else can they be more safely trusted to the guidance of their protective instincts. Don't be afraid that an active boy will hurt himself by voluntary exposure, unless his chances for out-door play are so rare as to tempt him to abuse the first opportunity. Weather-proof people are almost sickness-proof; a merry hunting excursion to the snow-clad highlands will rarely fail to counteract the consequences of repeated surfeits; even girls, who have learned to brave the winter storms of our Northwestern prairies, will afterward laugh at "draughts" and "raw March winds."—Dr. Felix L. Oswald, in *Popular Science Monthly* for November.

An Antidote to the Venom of the serpent Bothrops has been discovered by M. de Lacerda. That gentleman states that a hypodermic injection of permanganate of potash will prevent the usually serious effects of previous injections of the poison.

American Public Health Association.—The ninth annual session of the American Public Health Association will be held at Savannah, Ga., November 29th to December 2d, inclusive.

# Original Communications.

## THE TRANCE STATE IN INEBRIETY: ITS MEDICO-LEGAL RELATIONS.*

By T. D. CROTHERS, M.D.,
HARTFORD, CONN.

In 1879 I read a paper before the American Association for the Cure of Inebriates, at their annual meeting, entitled "Cerebral Trance or Loss of Consciousness following Inebriety, based on a Clinical Study of Cases." The following are some of the conclusions which were drawn from this study:

1. Loss of memory and consciousness may come on in inebriety, and be accompanied by little or no evidence of the actual state.

2. This condition of the brain arises from complex causes, which require careful study, and particularly when crime is associated with inebriety. If the trance state is present, its medico-legal relations are of the greatest practical importance.

Up to that time no study had been made of this phase of disease associated with inebriety. Then I supposed that this peculiar psychological state was rare, and seldom seen in this disorder; also that it was some obscure form of epilepsy, the result of causes that were more or less accidental, and seldom developed in this way. Later studies in this direction indicate clearly that these cases are very common, and are distinct from epilepsy. This state, noted by a loss of consciousness and memory, without stupor, during which the patient acts and appears rational, and yet is a mere automaton, without memory or realization of his actual condition, is present more or less in all cases of inebriety. To test this clinically, I made a special study of sixty-two cases which came under my personal care—cases of inebriety that were of long standing, representing the middle and better classes of society, and studied as they came, without selection. Of this number, in ten cases the trance state was so prominent as to be recognized by friends, and considered a form of insanity. In twenty-eight cases these blanks of memory had been noted less prominently, as of shorter duration, and were termed drunken fits. In the remaining twenty-four cases these blanks were more or less indistinct, following stupor and intoxication, and only ascertained by a study of the symptoms. All of them gave evidence of acts which were unaccountable to themselves or friends, and of which they had no recollection. I propose in this paper to give some of the general conclusions which have been indicated from these and other clinical studies I have made, illustrated by the history of some very prominent cases, whose physiological and medico-legal significance cannot be overestimated. At the beginning it is important to recognize clearly the distinction between alcoholism and inebriety.

The term alcoholism does not correctly describe all the cases which suffer from excessive use of alcohol or its compounds, but denotes merely such cases as come directly from the toxic action of alcohol. Inebriety represents a special disease of the central nervous system, not caused by alcohol alone, but due to conditions of nerve-degeneration, of which alcohol may be only an exciting cause or symptom of the neurotic condition. As understood at present, inebriety is the disease, and alcoholism is only a group of symptoms noted in the latest stages of the disease. All my studies of these cases are based on the fact that inebriety is a disease originating in certain definite or complex causes, and progressing through regular stages of development on to recovery, chronicity, or death. Inebriety is a positive physiological disorder, and not a combination of habit, vice, and sin.

The trance state is only a phase or particular symptom of inebriety, in which certain brain-functions are arrested. Unlike some other forms of trance, nervous activity is not particularly concentrated in one direction, but is absolutely cut off in others. The combined action of a defective mental state with the effects of alcohol, in certain unknown stages, cause not only suspension of the memory, but of consciousness—a literal paralysis of certain brain-functions. It may appear at almost any stage of inebriety, notably in chronic cases, or in those recently attacked. The nature and phenomena of trance in general have been fully described by my friend, Dr. George L. Beard, and many of the vast fields of medico-legal and physiological interest outlined by him. This is the same physiological state coming from certain specific causes. In this special form of trance following inebriety, the succeeding facts may be considered, established, and confirmed by clinical studies:

1. The trance state is a common symptom in inebriety, in which the patient is without consciousness and recollection of present events, and gives no general evidence of his real condition. This may last from a few moments to several days.

2. This state is clear evidence of profound disturbance of the higher brain-centres, and is of necessity followed by impaired judgment and lessened responsibility.

3. This trance state will always be found associated with a particular neurotic condition, either induced by alcohol or existing before alcohol was used. In all chronic states of inebriety it will be found present in a greater or less degree. The first fact is supported by the evidence found in the history of every case of inebriety. The second will be clear from the history of the cases which will follow; and the third can also be established from the clinical histories. The cases presented are selected as typical, and also for the purpose of bringing out prominently the symptoms and medico-legal interest growing out of them. I shall confine myself to some of the most general clinical facts, without entering into any discussions of the pathology or nature of this state. The plan I have followed is to give, first, cases in which the mind acted along certain accustomed lines of thought and action in the trance condition; second, cases in which the mind displays unusual ranges of thought and action, referable to varied mental conditions; and third, cases in which the criminal impulse was prominent.

Case I.—*Trance following Inebriety—Automatic Recovery.*—A railroad conductor, aged forty-five. Parents farmers, and healthy; no evidence of inherited disease. He grew up a strong, robust boy, and at twenty-two went on the railroad as baggage-master. Ten years later he married and was promoted to a conductor. He was, up to this time, temperate and regular in all his habits, using no spirits except beer at long intervals. A few months after his promotion to conductor, his train ran down an embankment and was wrecked. Many lives were lost, and he was

* Read at the meeting of the New York Medico-Legal Society, November 2, 1881. Slightly abridged.

greatly excited, fearing the censure of the company and the public, remaining at the scene of the accident over twenty hours without rest or food. He then went home and drank spirits to profound intoxication, remaining in bed two days before he went to work again. From this time he began to use brandy, and occasionally was intoxicated at home at night. Two years after he complained of restlessness and inability to sleep at night; for this, bitters were prescribed, which brought relief. His disposition began to change, and he became more excitable and impatient of opposition. A year or more after he began to drink regularly when the work of the day was over, and by nine or ten in the evening was heavy and stupid from the effects of spirits. He was very exact and methodical in all his habits, drinking beer through the day, and never varying the routine of his life or work from any cause. When thirty-six years old he complained of blanks of memory, or periods in which he could not remember, terminating suddenly, leaving him in some strange position with all the past a blank. His usual habit was to drink in the evening, either at home or at the club, come home always at ten o'clock and retire, get up next morning at four, and take his train a little later. These blanks would come on in the evening and break up at some point on the road the next day; or they would last until late in the afternoon, on his return trip. He would then show much anxiety to know what had taken place in the meantime, fearing he had made some mistake, and inquiring minutely of his wife or some intimate friends. These blanks increased, or were noted by his brother-in-law, a physician. He tried to break up the use of stimulants, but failed, saying he would become insane if he stopped; then he diminished the quantity, but always came back to the usual amount, which was followed by more or less stupor at night. Both his wife and brother-in-law noted these trance states, and fully verified his statements of no recollection of events. For over three years these blanks continued, sometimes every week, then at longer intervals, but steadily increasing in duration, and becoming more prominent in the heavy, stupid air and manner of doing business. He resigned and spent a year on the farm, using less alcohol, and recovering rapidly. He is now in business, and has had no blanks for two years; but at times, after he has drank two or more glasses of beer, his memory is confused for an hour or longer.

The character of the trance state in this case was markedly automatic, the patient doing that which he had been accustomed to day after day. The inebriety dated from the profound excitement of the accident where he supposed he would be blamed. For what reason he became intoxicated at this time was probably unknown to himself. In the trance state his mind acted along the usual channels, without any evidence of its suspended condition; but when this paralysis lifted, he manifested weakness, embarrassment, and alarm at the danger he was in. His fears of doing some extraordinary act, or committing violence in this state, was founded on a knowledge of some inner impulses, which he did not reveal. When free from alcohol his mind exhibited evidence of failure in the irritability and changed disposition. These trance states were purely automatic, and yet they indicated a half-conscious realization of his uncertain state, in the little cautions manifested. His inclination to begin the conversation or answer some question, which had been asked many hours before, showed the reality of the blank, although his manner gave but little evidence of it. I am convinced that many similar cases will be found among those who are pursuing an exhausting, monotonous work. A steamboat pilot informed me that, when worn out from loss of sleep, if he drank a glass or more of brandy, all memory of the time and place would vanish; and some hours after he would recover, finding that he had remained at his post, but could not tell what had happened in this blank. The captain of the boat doubted this, for the reason that he seemed in no way different, only less talkative. A skilled mechanic consulted me for similar blanks which followed excess in the use of spirits, during which he attended a certain dangerous machine, performing all the duties requiring skill and judgment, and yet he could not remember anything which had taken place for hours. He would awake when the machine stopped for the night. When the machine was kept in motion late one night, his blank continued until it stopped. These blanks were trance states following periods of severe drinking, and in many respects like the case we have detailed at length. A house-painter who is an inebriate will paint for hours in the most dangerous positions, while in these trance states, then come down, recover his senses, and wonder how he could have done it without falling.

I have gathered the histories of a number of similar cases, in which, during the trance state, the mind acted as before, with the same discretion and judgment. They are all of them following some methodical work, without change or variation, from day to day; also the alcohol is taken with regularity, and is unattended with any symptoms of intoxication. One of these cases is a grocer, who for hours has a perfect blank in his work, but keeps everything on paper, and thus is able to know what he has done. A second is a clergyman, who, after a few glasses of beer on Sunday morning, has no recollection until night of anything which may have followed. A third is a travelling man for a boot and shoe house, who drinks with every customer; at certain times in his trip he has blanks of one or two days, during which he does business, and has no memory of what has happened. An engineer would attend to his duties in this trance state for hours without giving any evidence of his condition, except general abstractedness of manner. He would show coolness and judgment, the same as if he fully realized his surroundings, and have no memory after. In all these cases there is a similar condition in the automatic state, showing that the mind may go on irrespective of the memory, in certain directions, under the influence of inebriate blanks of many hours, and yet the person attends to his work without knowing what he is doing.

CASE II.—*Trance following Inebriety of Emotional Character.*—A physician came under my care, fifty-one years old, with a history of insanity and phthisis in several members of his family for two generations back. He was educated at Harvard, in both the literary and medical departments, married at twenty-four, and settled in a large manufacturing town. He soon built up an extensive practice, and worked incessantly for many years. When about forty years of age, he suffered from depression and continuous melancholy, following the death of his parents and two of his children. At this time he began to use alcohol as a stimulant when worn out and after a hard day's work. This increased with his labor, and at times he drank regularly, then the amount would be diminished. He was never intoxi-

cated, and yet for weeks he would be under the influence of alcohol all the time. After prolonged overwork and lack of rest, he would fall into a paroxysm of crying before retiring, condemn himself for drinking, saying he would soon die, and then fall asleep, awaking the next morning with no memory of it. These emotional paroxysms would occur every week, and only disappear when he became less exhausted or was rested. All his life he had been a noted skeptic and doubter, never entering a church, but continuously sneering at all religious truth and church organizations. On one occasion, during a season of overwork, followed by the usual excessive use of alcohol, while passing a church where a revival was in progress, he went in, and was soon interested, going forward for prayers, then began to pray and exhort, manifesting great eloquence and enthusiasm. The church-people were overjoyed at his sudden conversion and change of life, but did not discover anything unusual in his manner or words. He went home in a happy frame of mind, singing and praying, went to sleep, and the next morning had no knowledge or recollection of any of these scenes. When informed, he was mortified, and avoided all contact with church-people, going away for a week, for fear his disgrace would be known. Within a year, on several occasions he repeated his first performance. The sound of church-bells and music at night, when he was driving out after having drank freely of alcohol, seemed to throw him into a trance state, during which this strange impulse came on. Finally he became alarmed and went abroad; but, as he used wine freely, these trance states continued at long intervals, and were indicated by paroxysms of prayer and sorrow that he was not better, and resolves to live as he should. After a year of travelling he returned and resumed business, taking a partner, who went with him at night, and watched over him continuously; but still the trance states appeared. He still used alcohol, but could not stop, fearing that he would die without it. He then retired and consulted me. These trance states were, in his opinion, drunken fits, which he wished to be free from. But, like nearly every inebriate, he was confident he could be a moderate drinker, and never be the worse for the use of alcohol. He talked rationally on other matters, and was suffering from rheumatism and general debility. A few weeks' treatment was followed by restoration, after which he went west to live on a farm. A year after he had, in a great measure, recovered.

The marked neurotic inheritance was the favoring soil from which inebriety would naturally follow, depending on any exciting cause that was brought to bear upon it. In this case, the exhaustion of overwork and the mental shock from grief reacted readily into inebriety. This continued for a long time, until the trance state came on. This was at first a mere emotional outburst, manifested in religious feelings; then from circumstances developed into the strange religious interest of short duration, which was utterly a blank to him. The emotional fear of death was present in all these cases, but on no occasion did his friends at the churches have any suspicion of his real state. The knowledge of these scenes from the statements of friends plunged him into deeper melancholy and remorse. His mind was full of alarm at the prospect of insanity, and yet he could not stop. These trances pointed clearly to the failure of the mind and a degree of mental irresponsibility which was not clearly recognized. The line of action was that to which the brain was unaccustomed, and required the play of a new set of faculties. In the first case, the brain in the trance state simply acted along its usual course. In this case a new path was followed. In both an automatic condition was present—one guided by the experience of the past, the other acting from inner impulses in new channels. The same condition is often noted in chronic inebriates, who, after a certain stage of excess in the use of spirit, will exhibit a remarkable spirit of emotional excitement to reform others or protect them from injury or wrong. The strange mental acts and desires at this time are nothing but trance states, in which some of the faculties are suspended, and others are alive and active. The gospel temperance meetings, where the excitement is intense, are excellent places to study this trance state. Men in different stages of alcoholic excess will come forward and sign the pledge and manifest great earnestness, and yet next morning be utterly oblivious to everything done. I have seen many inebriates just this side of stupor and muscular paralysis attracted to these gospel meetings by some means, and become the most enthusiastic temperance men, sign the pledge, and describe their past degradation with evident satisfaction, and close with the wildest assertions and promises for the future. The meetings of Moody and Murphy brought out many very curious illustrations of this phase of inebriety. Thoughtful men often wondered why the same men who were so enthusiastic did not appear more than once or twice at these gatherings. On inquiry, it was found that they had fallen, or gone back, when, in reality, this was a trance state, from which, on recovering, they did not return, because they could not realize the position which had been taken. A United States senator, who was an inebriate, appeared at one of these meetings, and made a solemn pledge not to drink again; the next day he denied it, and never believed or acknowledged that it was true. I have found many persons who join the temperance ranks in this state, when, on finding what they have done, make an honest effort to carry it out. Others are ashamed, and avoid all such influences in the future. The temperance leader never stops to question the strange inconsistency of men who are so positive and earnest in their reformation, then suddenly grow indifferent. To him this is only an evil heart; but to the closer observer it is simply the trance state indicating a degree of degeneracy needing medical rather than spiritual care. I conclude from this that inebriates brought suddenly into conditions of much excitement fall into this state, and are moved by circumstances and surroundings to which they are really oblivious. This state may appear as a simple impulse, or grow into a fixed delusion; as in the case of an inebriate who signed the pledge, went home, and because his brother did not approve of this action, assaulted him with great violence, attempting to force him to believe in it. Often men who sign the pledge in this state suddenly manifest a mania for public speaking in the temperance ranks, and go on for weeks, always drinking in secret, and more or less oblivious to their real condition. In one case, a man who had signed the pledge was for many weeks both drinking and speaking, creating intense excitement everywhere, then recovered, with no connected memory of it. I am firmly confident that this trance state is not only full of danger from impulses of all kinds, but is the fertile soil for delusions which linger long after the origin of them is forgotten. Two patients of mine, who had been sober for four months, both

drank freely, and then went to a gospel temperance meeting. Both went forward, and soon became very warm in their religious feelings. The next day they had no recollection of what had happened, or that they had attended such a meeting; but both affirmed that only prayer could save inebriates, and when asked where they received this impression could not tell. Their history before this event showed that they did not entertain it then, and that it was impressed on them during this trance state; but all the other circumstances were forgotten. It may be stated as a fact that in all cases where religious emotion is constantly appealed to as an element of cure, the patient is on the border of the trance state; and, furthermore, any system of treatment which depends exclusively on the religious element cannot build up healthy tissue or restore defective brain-force.

Case III. is presented to show the prominence of the sexual instinct during the trance state.

A farmer, aged forty-eight, whose parents were eccentric and feeble-minded and had lived away from society, and worked hard a long life-time. When about twenty-six years old the lady to whom he was engaged to be married died suddenly, causing great grief and gloom. Both parents dying soon after, a deep melancholy followed, during which he became more secluded, never leaving the farm unless on business. For many years he lived very retired; when any one called on him he was pleased, and talked cheerfully, but never returned such calls. He seemed to take pleasure in history and spent his leisure reading, never visiting or attending lectures or meetings of any kind. At thirty-nine his sister who kept house for him died, and soon after he was noticed to visit a neighboring town, and buy a jug of whiskey. This was repeated regularly every few weeks at first, then at shorter intervals. No one saw him use stimulants, and he never seemed different from the effects, only more solitary and reserved in his manner. At this time he worked hard, was prosperous, and apparently in good health, manifested excellent judgment, would go to his room at dark, and would not be seen until next morning. The amount of spirits consumed reached a gallon a week, and in the harvest season nearly double; when one day he broke off work abruptly, dressed up and drove away to a neighbor's, asking to see an unmarried lady. He explained his presence as a mere social call, that he had been secluded, but now he was going to be social and visit his friends often. His manner was reserved but polite, and his conversation was clear and sensible. The next week he made other calls on young ladies in the neighborhood, talking very pleasantly a few moments, then going away, thanking them for the invitation to call again. These visits were perfect blanks to him; he would awake next morning and remember nothing of what had taken place after a certain moment in the field or at the house, and wonder greatly how he had employed his time. These blanks continued for several years and were all substantially the same, limited to short calls on different ladies for miles around. He was more secluded than ever in the intervals, refusing to see persons who returned these calls. Coming under my notice, I found him suffering from dyspepsia and many of the usual symptoms following the use of alcohol. He thought he was intoxicated during these blanks, and claimed that he used alcohol to prevent consumption. He was reserved, but seemed to have no fixed opinions about his case, or desire to diminish the use of alcohol. His memory was defective, and he could not work regularly on the farm. He would not consent to anything being done, and two years later he died from gangrene following a broken leg.

The neurotic inheritance and depression following the loss of friends found a natural relief in alcohol, and he became a secret inebriate. The trance state was manifest, after a period of prolonged excess and hard work, in amorous impulses to seek the society of ladies. An extreme caution seemed to be present, holding him from making more than a formal call, and not to visit the same place more than once. Nothing but the unusual character of the call was in any way noticeable. At home the abruptness of leaving business and other important duties was a hint of the change of mind and loss of consciousness. When informed what he had done he seemed more dejected than ever, and became more adverse to society or meeting any one. This trance state gave vent to his latent sexual impulses, which for a time guided his mind. Had he committed an assault at this time, no general evidence in defence relating to his conduct would have indicated more than unusual acts, for which he gave general good reasons at the time in his desire to change his life, and when this trance state had passed away all knowledge of these events would have been denied. No ordinary observation of persons who saw him in this state could have imagined his real condition. I think it will be found that many of the unusual sexual crimes committed by inebriates were done in this trance state, where the higher faculties were arrested, and the animal instincts were left free to guide and suggest. The extraordinary conduct of previously moral men who are inebriates can only be explained by this trance state. When sexual crime follows inebriety it may be either a mere automatic action of a low moral condition, built up and fostered by low thoughts and actions, or the expression of a disturbed function which bursts out into an impulse that is dominant for a time. In the former case some plan or premeditation may seem to be present, because the line of conduct has been outlined in actions and thoughts that have left an impression on the brain. In the latter it is often paroxysmal without plan or purpose, simply the explosion of an impulse which the disorganized brain is powerless to resist. The following cases are given to indicate the prevalence of these trance states in inebriety. I have gathered the history of each one, but merely give an outline for want of space. An inebriate clergyman committed a rape under the most extraordinary circumstances, and asserted that he had no memory of it: the circumstances bore out his statement. A middle-aged business man of excellent character assaulted an old woman. A lawyer of reputation planned the abduction of a lady he was going to marry. A man of standing, and happy in his domestic relations, married a notorious woman, although having a wife and large family. Each of these cases had no memory whatever of the occurrence, and all the circumstances were so unusual, and at variance with previous conduct, as to confirm their statements; and yet they were all punished, and the defence of unconsciousness and irresponsibility was considered weak. No medical study was made of these cases, and the excess in the use of spirits was mentioned as only incidental to the case. The apparent realization of all the circumstances was the point insisted upon in the measure of punishment.

Case IV. was a lawyer of eminence, whose ances-

tors and family had all died of consumption. He was a nervous, passionate man, wealthy, of brilliant talents; ambitious, and industrious; also a devout, conscientious man, and very temperate in all things but eating. After a severe attack of typhoid fever, he began to use whiskey at meals. Three years later he used it both at the table and at night before sleeping. His life was more or less irregular, and he complained of exhaustion and inability to sleep. After a long campaign of speaking, and great irregularity of living, during which he drank constantly large quantities of whiskey, he suddenly called for paper, wrote a will, affirmed that he was going to die, made a full disposition of his property, and, after a night's rest, awoke with no memory of anything which had occurred. A week after he had another paroxysm of melancholy, wrote another will and arranged for death, and awoke a few hours after with all these scenes a blank. During the time of this trance he was perfectly calm and seemed in no way different, reasoned clearly on all matters, and by no word or action betrayed his real state. For two years he remained about the same, having many of these blanks, always attended with the same mental phases and apparent full consciousness; then they changed into suicidal impulses, in which he wished to have his wife die with him. He reasoned very calmly and correctly on this matter, but followed the advice of his friends. The next day he was greatly alarmed when informed of what had happened. Another trance state followed, in which the suicidal impulse took on the form of intense suspicion of the unfaithfulness of his wife. A friend of his took down an elaborate statement of his wrongs; he then made another will, left an explanatory note to be printed in the papers, and finally was persuaded to sleep, after which he awoke, and all the past, as before, was a blank. The friend who wrote this statement was a lawyer, who said that beyond the extraordinary nature of these papers, nothing could be noted of the real condition of the patient. He could not in any way detect mental unsoundness. On another occasion he purchased pistols and a knife, when his friends put him in the care of a lunacy specialist, who called this epilepsy. Two months later he came under my care, and was delirious from the removal of the spirits for two days, then made a slow recovery, and is to-day at a water-cure, improving. The trance states have disappeared, but his mind and body are both feeble.

The inebriety began with the use of spirits after the fever, and the trance state was marked by emotional disturbance and conviction of speedy death. This was but the suggestion of the general exhaustion of the system, and the desire to arrange his property was the usual caution of a business man. The fact of having written his will never remained on his memory, and he always urged to have it written when in this state, even when other copies were exhibited to him. When speaking these blanks came on, but excepting that he had no recollection of anything after a certain time, no one could have realized it. As he grew more exhausted, suicidal impressions started up. These were checked by the interposition of friends. Had he kept these impulses to himself, or not been influenced by friends, they would have developed into a tragedy. He was drifting into a dangerous mental condition, in which impulses of every description were likely to take possession of and control his actions. Had he killed his wife at this time, or any one, no reasonable defence could have been urged that would have been intelligent to a judge or jury, and yet he was in a condition of irresponsibility without doubt. I have verified this condition in the following cases: A retired merchant, while drinking, assaulted a stranger who was attending to other business; he had no consciousness of the act, and at the time said that this man was an enemy, who had deceived him long ago. The assault was cool and devoid of all excitement, and justified at the time by the above reasons, urged with a great show of candor. An inebriate in a large business made the most extraordinary purchases of goods, which he could not remember the next day. A cautious banker, after a season of drinking, invested a large trust fund in Wall Street, and lost it all, without any memory of it after. A very kind, affectionate husband, who was an inebriate, began divorce proceedings while drinking; two days later he was astonished to realize what he had done, all the past being a blank to him. George D. Prentice, the poet and orator, was advertised, and had prepared to deliver a lecture on a certain subject. When the time came he repeated an entirely different lecture, without any knowledge of it; he could not believe it until he read a full report in the next morning's paper. This was a trance state, in which the mind swung into an accustomed channel, and could not be brought back to the subject intended.

The following cases are noted for the prominence of the criminal impulse. I have studied them to bring out the trance condition and the character of the criminal impulse, with some of the varied possibilities of crime which may spring from it.

Case I.—I was called to determine the condition of a man repeatedly convicted and punished for horse-stealing. He was fifty-one years old, a hackman by occupation. His father was a weak-minded man, and his mother died in an insane asylum. At twenty he entered the army, and suffered great hardship as a prisoner. He was an invalid for two years after the war, from malaria, chronic diarrhœa, and rheumatism. At thirty he was employed in a livery stable, and was a moderate beer-drinker. A few years after he was a partner in the business, and was considered honest and a very correct business man. His habits were regular, and he was very fond of horses and driving. About this time he married, and a few months later was noticed to be using spirits to excess at night. No special effects were noticed, except stupor and heaviness, and sometimes extravagant conversation; all his business matters were carefully carried on as usual. One day he walked out, after drinking large quantities of spirits, and unhitched a fine horse in front of a strange residence, and drove about for an hour, bringing the horse to his own stable; and the next day he had no recollection of it. A few weeks later he drove off another horse which he found standing in the street, and put it up in his stable, without any memory of the event. This was with difficulty explained to the owner, and was a great mystery to the man why he should do it. The third event of this kind was driving away a team of horses which had been left in a shed, and after going about for an hour or more offering to sell them at his stable. He was in no way different, talked and acted as usual, said he had bought the team from a stranger and given his check for it, and went into a detailed statement of its merits and excellencies. Except a strong odor of whiskey, he could not be supposed to be under the influence of alcohol. The next day all this was a blank. When told what he had said he could not believe it. Later, he was arrested, and the act was settled only

after much trouble. A year after another similar event, only more aggravated, happened, during which he sold the horse, and appeared to be guilty from his actions; but when arrested his mind returned, and all was a perfect blank. Another event occurred the same year, in which he went about with the owner, showing great interest to discover the horse, when he had placed him in a stable in a neighboring town. He was arrested, and after a long legal contest barely escaped punishment. He was ruined financially, and from this time drank more. Within a few months he was found driving a valuable horse up and down before the owner's house, testing its speed, and asserting it was his own. For this he served one year in prison; the defence of want of memory or knowledge of these scenes was treated with contempt by the court. On another occasion he took a horse, sold it, and went about with the owner for two days trying to find it. He had no memory of anything which had taken place, and was sincere and anxious to help the owner get his property. When it appeared that he was the guilty one he was astonished beyond measure. From this time he went repeatedly to prison, having stolen horses on many occasions, and always after drinking, and in a condition in which he claimed to have no memory of it whatever. Sometimes he showed some degree of cunning in the concealment of horses; at other times he was bold and reckless as to the consequences of being seen. In every case there was a certain purposeless character and absence of motive, other than the mere pleasure of riding behind or driving a good horse. I found him full of delusions of persecutions, and intensely suspicious of others. His memory of events was defective, and he could give no reason for stealing, having no memory of such acts. He drank spirits whenever he could get it, but was never stupid or wild from the effects of excess; but would, after a day's excess, awake, and have no memory of what had happened. To his friends, who had watched him carefully during these trance states, he was more reserved and silent, or impulsive and laughing loudly at times; otherwise he was rational, and seemed fully aware of what he was doing. I pronounced him an inebriate, and irresponsible as to the nature and character of his acts; but he was found guilty and sentenced to prison, where he died a few months later of phthisis.

The inebriety in this case coming from physical causes was marked by a long prodroma before the trance state appeared. The purposeless character of the crime, and the lack of the usual caution manifested by this class of thieves, confirmed the statement of no recollection of it. He could have no special motive to steal when he had so many horses of his own, and when he had stolen he did not seem to use the money he received, or regard it as a gain. He seemed governed by a mere impulse to drive a good horse, never stealing a poor one, and always doing it in an automatic manner, which varied but little from time to time. His previous good conduct and the unusual character of the crime made no difference in the judgment of the court, and he was sentenced over and over again. No one ever thought it possible that he could not realize the real nature of his acts. The following are similar cases which have come under my notice: A teller in a bank, who was a secret inebriate, after a paroxysm of drinking forged a note and put the money in his pocket. The next day he was amazed at the presence of this money, not knowing where it came from. When his guilt was discovered he had no recollection of the circumstance, or reason for it. He was punished, notwithstanding the unusual character of the act, and his defence of no recollection of it.

A rich brewer, after a periodical paroxysm of drinking, would alter his signatures on checks, and refuse to pay drafts. He would have no recollection of these events the next day, and after being convinced of their genuineness, would pay readily.

Another brewer in these trance states, after drinking, would diminish the wages of all his workmen fifty per cent., and if the trance continued long enough a strike would follow. Then he would recover, and all would be reinstated again—he all the time wondering why he had done this, not recollecting anything of it. This has happened a number of times, and is now distinguished by the sudden impulse to cut down the wages.

A farmer of the highest respectability is now serving a life sentence for manslaughter, committed (after drinking spirits to excess) on a man unknown to him, and for no reason or motive. The judge charged that his reasonable conduct up to the time of the homicide, and his appearance of full knowledge of all the surroundings and the consequence of his acts, was strong evidence of his sanity, and that no proof of his inebriety or want of recollection of the homicide should be considered any defence, or by any possible way lessen the responsibility of his crime.

An inebriate of wealth suddenly fired his buildings, and awoke when they were burned down, offering a large reward for the incendiary. When it was traced to him he was amazed, and reformed from that time.

All these cases were that of trance, with the impulse to crime that developed in different ways. I am inclined to believe that some crimes have begun in this state, then, from fear or other conditions, suddenly checked, with the mind partly conscious of the nature and results of the act. Undoubtedly there may be present a strong element of insanity associated with this trance state in crime, still, not distinct enough to be recognized by court or jury. Epilepsy may appear along this line, and be so mixed up with both insanity and inebriety as to make recognition still more difficult. The practical point to be observed is that all such cases must be measured by the facts of their own personal history, thoroughly studied and justly understood.

Case II.—Was a manufacturer, forty-nine years old, who had used alcohol freely at meals for five years. His ancestors were inebriates, and he had begun to use spirits from some supposed debility, until he was obliged to continue them every day. He was very affectionate and generous to his wife and family, and never betrayed any anger or displeasure at their conduct. Suddenly, after taking too much spirits, he became very passionate and offered violence to his wife; her tears roused him from his condition, and he was greatly distressed at his conduct, which was unaccountable to him. He consulted physicians and was treated for months for some brain malady. Then another blank of memory, in which he started the most slanderous stories about his wife staying at a hotel. His conduct was consistent with his stories, and his manner was in no way unusual. On recovery he was again chagrined, and did not believe he had said what was represented to him by others. These blanks, attended by violence to his furniture or his wife increased, and were not noticeable for any other unusual insane conduct, which he fully justified at the time, and always ap-

peared cool and calculating. When friends called during these periods he would reason with great calmness, and be perfectly self-possessed, saying that his head was heavy and he was not well, but would be so next day. He went to Europe and visited the hot springs, with no benefit. Finally he went to an insane asylum and relapsed there, injuring an attendant, but in a way and manner so perfectly cool and free from excitement that the superintendent thought it evidence of a sane mind, and doubted all his statements, discharging him as malicious. I advised him to go under the care of a physician, and he is now free from these trances, and has taken no spirits for many months.

The general history of this case is exceedingly suggestive. The inebriety was followed by a distinct trance condition, with an unusual course of action, utterly at variance with his previous character and habits. The suspicion and violence grew into a dangerous impulse. This always followed after an excessive use of alcohol, and was not attended by any symptoms except the delusion of wrong in his wife, and the desire to right it by violent measures. The passionate violence at these times was of short duration, and the blanks lasted from a few hours to two or more days. His appearance gave no hint of his unconscious condition, and his reasons for violent acts were in a measure sane. He would have committed a fatal assault had a favorable opportunity occurred, and only by the caution of his wife and friends was this avoided. Only a minute study of all the circumstances and history of the case would have indicated the mental instability which was present, and yet he would have received the full measure of punishment at the hands of any court or jury without such study. The case illustrates what in all probability takes place every day in this country, especially in the sudden, purposeless crime committed by inebriates. These cases fill the newspapers, and astonish both courts and juries, who are puzzled to find a motive for the crime, or to attribute it to insanity as described by the text-books, or defined by experts. Sometimes these cases (where the suspicion of irresponsibility is present) are defended, on some strained theory of insanity, whose obscurity confuses the courts, and is criticised and ridiculed by non-experts and ignorant lawyers. These cases are not studied intelligently, and the true theory of their condition is unknown. Two cases will illustrate the every-day experience of courts all over the country. Some man, an inebriate, of low moral nature (which is always an evidence of defective brain organization), comes home, after excess from alcohol, not intoxicated, and in an altercation kills his wife, or some one who may be drawn into the circle accidentally. He is arrested, and has no memory of the event; no study is made of his case; only a few facts of the crime come out prominent. If he has money the defence is technically unnatural, and of course fails; he is punished. The second case is one where previous good character, except excess in the use of spirits, is prominent. He commits a homicide or some strange crime under circumstances that are inadequate to explain or account for it; denies all recollection of it afterward, and the defence must resort to some specious reasoning and theories, or work on the sympathies of the jury. The judge is indignant at what seems to him efforts to defeat justice, and charges strongly against the prisoner; conviction follows; his counsel are sure of some mental defect, and yet they cannot make it clear to either court or jury. If the crime is of petty character, the punishment precipitates him into incurable conditions, and the object of legal measures to prevent and check crime is defeated. The theological notions of the nature and character of inebriety, upon which legal decisions are based, are active causes in developing incurables of this class. One-third of the business of the courts in all our large cities consists of administering what is termed justice to inebriates, but what is literally means which make their recovery more and more impossible. Thus, crime following inebriety, and inebriety itself, are punished, with no effort to study the causes or reach down to understand the physical conditions present. The result is that both Church and State in their ignorant measures to check inebriety are not only increasing its growth, but preparing the soil for its more rapid development.

Hundreds of cases can be selected from the records of courts and prisons equally as prominent as those I have presented; all conspicuous for crime committed after and during excess in the use of alcohol; all denying any recollection of the event, and all the circumstances of want of motive and purpose confirming their statements. Yet in all these cases there has been no medical study to understand the mental condition which would develop into such acts. Assumptions of perfect sanity and capacity to reason clearly have governed the decisions in these cases. So long as the inebriate was not stupid, or wildly delirious, he is supposed to be fully cognizant of all his acts; it is considered a vice and punishable up to a certain line, and beyond that a doubt might be entertained. This is the same spirit of superstition which punished witches and believed in demoniacal possessions, ignoring all physical causes, and is clearly outlined in the late charge of an eminent judge, as follows:

"Intoxication from excess of alcohol is no defence for crime, and cannot in any way lessen the measure of responsibility."

If inebriety is only a voluntary spiritual state, this is good law, probably; but if it is an involuntary physical condition, a reform is demanded in both theory and practice.

I pause at this point to arrange some of the conclusions which stand out prominently from the facts stated. The great obstacle apparent in the medico-legal recognition of this trance state is the confusion of opinion as to the disease of inebriety. It is a remarkable fact that, notwithstanding the great advances made in the field of mental sciences, and the increasing prominence of inebriety in its effects in every community, the same opinions prevail to-day which were taught centuries ago. Insanity has emerged from the superstitions of religious teachers, but inebriety is still invested with murky theories of vice, sin, and punishment. All studies of its nature and causation have been made from the moral side alone. As a natural result the application of means and measures for the care and control of inebriety, based on such views, have utterly failed. Practically no other result can be expected until the entire subject is studied from a scientific standpoint, above the dogmas of theologians and reformed inebriates. The world moves, and no measures for the benefit of society or the elevation of the race will succeed, unless founded on the truths of nature, and along the line of its eternal laws. The inebriate in this trance state is a mere automaton in motion, either moving along certain fixed lines of conduct, or acting in obedience to unknown forces, which may change or

vary any moment. Some governing centre has suspended, and all consciousness of time and the relation of events has stopped. Changing thoughts and impulses, the suggestion of a disturbed organ, or the impression of a thought or desire coming from the past, may suddenly concentrate into action, irrespective of consequences. Both subjective and objective states, influenced by conditions of health and brain power, may develop into deeds that are practically unknown and unrecorded by the higher brain-centres.

The phenomena of this state divides into two forms. One, probably the most common, in which the mind moves along certain familiar lines of action, and follows some purpose which has been previously fixed, all of which appears natural and reasonable; as, for instance, the conductor pursuing his every-day work, or the banker who attends to all his usual business, unconscious of what takes place. Second, a new line of thought and action appears, unusual and foreign to his every-day life. Often impulsive and inconsistent, he is yet seemingly conscious of his failings, and if questioned may give reasons that seem to justify his conduct. As, for instance, the physician who attended the prayer-meeting, or the lawyer who wrote a will in every trance state, etc. In both of these forms sudden changes from one state to another may follow. Emotional disturbances may precede this state, or may appear coincidently with it. The senses are blunted or enfeebled, or they may be intensified in certain directions. Except this, perhaps, there is little evidence of unconsciousness, and if the impulse is criminal it may appear without premonition, like a flash of light, and disappear with equal suddenness. Legally, the first question is the inebriety of the patient. On this point the inference will be clear if the person has used alcohol at intervals or continuously to intoxication. The degree of this excess need not be stupor or delirium, but whenever it is marked by changes of intellect, manner, temper, disposition, habits, and character, inebriety is present. Next, the presence of the trance state, which may be shown from the statement of the patient, and all the circumstances of this state, with a history of the case.

*First.*—The statement of the patient that he did not remember the act may be made to shield him from its legal consequences, or save his reputation. The general principle here is that the use of alcohol invariably impairs the memory, and that confusion of mind and disturbed will-power is a pathological result from the same cause; hence there is always a physiological possibility of the correctness of the statement.

*Second.*—The general character of his conduct during this state will bear out his claim of trance. His general abstractedness of manner, or his strange, inconsistent actions, unusual in motive and object, united with no apparent recognition of the surroundings, may be taken as evidence. The farmer who went about visiting was strangely inconsistent in conduct; the engineer was very abstract and reserved in his manners, etc.

*Third.*—The range of the mind, and the general vigor and health displayed, will give some indications of the consciousness of his acts in this state. The sudden change from frankness to reserve, or from confidence to suspicion, or the presence of emotional excitement in little things, melancholy or hilarity, the rapid change of the mind from one extreme to another, are also evidences. The physician, from a sceptic, became a pious man in this state; the manufacturer became violent to his wife, whom he loved very dearly, etc.

*Fourth.*—If crime is committed, or any conduct which perils the good order of the community, a careful study will bring out the evidence of the mental state present.

As in the case of the hackman, a full history of his stealing was clearly that of a man not realizing the consequences of his acts. Or in the lawyer who wrote his will, and had suicidal impressions, the entire history of these acts pointed to the trance state. Lastly, a general history, which will include inheritance, education, mental capacity, and health, will bring out many factors to determine the case. The patient's acts after coming out of the trance state will also determine its presence. He will manifest an indifference and a change of conduct from that noted in this state. An illustrative case recently under my care was that of a dentist, who in this state was very anxious to make money, although wealthy, but when this condition passed away all his money schemes were forgotten. In another case a man murdered his wife in a trance state, and went about for hours not realizing what he had done, or making any effort to escape. From these and other studies the trance state may be reasonably proven to any court or jury. Then comes the question of responsibility. Clinical facts within the observation of any one will indicate unmistakably that in all cases of inebriety there is a defective brain-power and general perversions of healthy activity. Also, when inebriety is present, the door is open for many and complex nervous disorders, which often complicate and make the inebriety more uncertain and doubtful. Hence, when inebriety is proven to exist, the responsibility of the patient for his acts is lessened—he is not of sound mind. When the trance state is determined, the actual responsibility or cognizance of right and wrong is suspended, and the patient is a mental waif, without compass or chart. No evidence of premeditation or apparent judgment in his actions can alter this fact. Any course of action marked by this may come from some impression laid up in the past, which, when conscious reason is withdrawn, takes on form and semblance. The real condition of the mind in this state is more or less concealed. Nothing less than a thorough medical study of every case, by competent men, can determine the measure of responsibility. Such a study must be made from a physical point, based on the facts, for nothing can be a greater injustice to both the patient and the community than to condemn and punish without a knowledge of all the conditions and circumstances. The object of the law to protect the rights and interests of individuals is defeated where its enforcement precipitates the victims into more hopeless conditions. Inebriety in any of its forms may be no excuse for crime in law, but it can never, in any case, be an excuse for punishment which destroys the victim. The time has come to lay aside the legal barbarisms, relating to inebriety of the past, founded on superstition and ignorance. The border-lines of sanity and responsibility in inebriety, as laid down by courts, are unsupported by facts and the teachings of science.

Inebriety in all cases must be regarded as a disease, and the patient forced to use the means for recovery. Like the victim of an infectious disease his personal responsibility is increased, and the community with him are bound to make the treatment a necessity.

The following propositions sum up many of the facts mentioned:

*First.*—Inebriety must be recognized as a condition of legal irresponsibility to a certain extent, depending on the character and circumstances of the case, and the general mental integrity displayed.

*Second.*—All unusual acts or crime committed by inebriates, either in a state of partial coma or alleged amnesia, which come under legal recognition, should receive thorough study by competent physicians before the legal responsibility can be determined.

*Third.*—When the trance state is established beyond doubt, he is both legally and practically irresponsible for his acts during this period. And each case should be measured by the facts of its individual history.

*Fourth.*—Inebriety is a disease requiring physical means in the treatment. Society demands of the patient that he use diligence to recover, and so far as he may neglect this, both himself and the community are responsible.

*Fifth.*—It is the duty of the State to provide asylums and encourage private enterprise to furnish the means and appliances for restoration.

*Sixth.*—Lastly, standing on this border-land, and looking back at the monstrous injustice and legal crime that is daily committed in the punishment of inebriates, who are practically insane, I am convinced that the time has come for a revolution of sentiment and practice, in which both the inebriate and the community must be held responsible, not alone for his acts, or the consequences of them, but the causes and conditions which have developed in this way; then the victim will be forced to avail himself of every means for prevention, restoration, and recovery.

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THE VALUE OF MENTAL TENSION.—A certain degree of tension is indispensable to the easy and healthful discharge of mental functions. Like the national instrument of Scotland, the mind drones wofully and will discourse most dolorous music unless an expansive and resilient force within supplies the basis of quickly responsive action. No good, great, or enduring work can be safely accomplished by brain-force without a reserve of strength sufficient to give buoyancy to the exercise, and, if I may so say, rhythm to the operations of the mind. Working at high pressure may be bad, but working at low pressure is incomparably worse. As a matter of experience, a sense of weariness commonly precedes collapse from "overwork;" not mere bodily or nervous fatigue, but a more or less conscious distaste for the business in hand, or perhaps for some other subject of thought or anxiety which obtrudes itself. It is the offensive or irritating burden that breaks the back. Thoroughly agreeable employment, however engrossing, stimulates the recuperative faculty while it taxes the strength, and the supply of nerve-force seldom falls short of the demand. When a feeling of disgust or weariness is not experienced, this may be because the compelling sense of duty has crushed self out of thought. Nevertheless, if the will is not pleasurably excited, if it rules like a martinet without affection or interest, there is no *verve*, and, like a complex piece of machinery working with friction and heated bearings, the mind wears itself away and a breakdown ensues. — DR. J. MORTIMER GRANVILLE on "Worry," in *Popular Science Monthly* for November.

## SOME CASES THAT DO NOT ILLUSTRATE REFLEX DISTURBANCES FROM GENITAL IRRITATION.

BY C. L. DANA, A.M., M.D.,

PHYSICIAN TO THE CLASS OF NERVOUS DISEASES, NORTHEASTERN DISPENSARY, N. Y.

THE interest excited by Dr. Gray's paper, and the discussion at the meeting of the Neurological Society, November 1st, lead me to ask for the publication of the following cases as pertinent to the question at issue.

The first is that of an infant who was, apparently, a typically good case for the operation for phimosis. He had incontinence of urine and no control over the legs, which were adducted and crossed in the way described by Dr. Sayre. The prepuce was an embodied prayer for amputation, according to all the data given for that operation by the exponents of the reflex doctrines. It was accordingly removed. For six weeks the child was not perceptibly improved. A radical change in diet and medicines was then ordered. In two weeks nearly every bad symptom had disappeared.

The second case illustrates another side of the matter. The patient had had acute anterior poliomyelitis six months before. It had improved rapidly, then not at all, and finally it began to get worse, as shown by increasing lameness, atrophy, irritability of temper, general weakness, and anorexia. The prepuce was long, reddened, and adherent, the orifice was very small, the organ irritable. Yet the child rapidly and steadily improved in all its symptoms, under electricity, massage, nux vomica, and counter-irritation.

I present these cases in full below, because I believe they are types of a very large number, and that their significance was not sufficiently dwelt upon in the discussion of Dr. Gray's paper.

Nearly every male child has a long prepuce, and in would naturally happen that a great many of these are tight, or reddened, or adherent. Yet clinical records fail to show that any great proportion of these children suffer from nervous disturbances of serious character. One would not expect often to get reports of cases like my first, where the operation did no good, nor of cases like the second, where cure results without any attention to the phimosis. Yet I have heard of similar ones, and such cases show us that an irritable prepuce is, as a rule, only one factor in producing the disturbances alleged to be reflex. Children—and especially city children—under five years of age, are not a very healthy class at the best. Half of our mortality is from them, though they make but one-eighth of the population. Ten per cent. die every year, and ten per cent. are sick all the time.* Nearly a fourth die from constitutional diseases, while not more than one-fiftieth die from any nervous diseases except meningitis and convulsions. These latter occur almost equally in male and female; few would ever assign genital irritation as a cause.

One may reasonably expect, therefore, in young children some organic disease or some defect in nutrition to be present, and act more or less permanently in producing the nervous disturbances. And consequently the most rational view seems to be that in the great majority of cases other factors than genital irritation exist to produce the nervous trouble:

* These are approximate figures obtained from a study of the New York City Board of Health reports.

sought to be alleviated. There is little doubt, from the present evidence, that genital and even preputial irritation can *alone*, in rare cases, cause reflex nervous disturbances, perhaps even paralysis. Sometimes this genital irritation may be the chief factor, or again it may take but a small part in the matter; or, other morbid changes may have so affected the nervous system that a slight but constant genital irritation is enough to upset the healthy balance of nervous forces and produce paralysis, convulsions, enuresis, etc.

Whether genital irritation be a sole cause or an exciting cause, or only an aggravating element, the question of treatment is little changed, however. The irritation should be removed. If there were a foreign body on the conjunctiva keeping up a constant disturbance, one would remove it and not think he was displaying any remarkable degree of surgical acuteness. The conditions are, to some extent, analogous in cases of phimosis, with balanitis, etc.

Dr. Gray has done a service in showing so forcibly the other side of this question of reflex irritation: it is that we very rarely, indeed, have a specific cause in an irritable prepuce, or a specific remedy in circumcision.

Case I.—Boy, aged fifteen months; had always been well until two months before, except that he was rather small in size, and had developed slowly. When first seen, the arms and legs were thin, abdomen full, the legs were under little control; he could neither creep nor walk; generally kept the thighs adducted, and the limbs more or less crossed. He was dull and spiritless, and altogether looked rather puny and rickety. Still, the face was full, the appetite and digestion good. He had been weaned at nine months, and the parents reported feeding him on condensed milk, oat-meal, beef-tea, etc.

The patient was brought to me, March 24, 1877, on account of incontinence of urine, which had been getting worse during the previous two months. The child passed water very frequently both day and night, the bladder not seeming able to hold urine long. The urine passed was very light-colored; specific gravity 1004. There was no evidence of cystitis or stone. The prepuce was long, the orifice contracted to the size of a crow-quill; the end was somewhat reddened and inflamed. There was a small cul-de-sac between the glans and the orifice of the prepuce in front of the frenum, where a little urine often remained after micturition. The prepuce was adherent to the glans. The penis was subject to frequent erection, not due to the child's rubbing or irritating it.

The father, who was a very intelligent man, had been a surgical instrument maker, and had read Dr. Sayre's monograph, then but recently published. He was convinced that his child belonged to the class described by Dr. Sayre, and brought him to me to be circumcised. It seemed to be a particularly good case for operation, and I therefore removed the foreskin on March 26th. The wound healed without any trouble.

April 15th.—No change had taken place in any of the symptoms. The child continued to eat and was tolerably comfortable. Belladonna, which had been ordered previously, was discontinued.

April 23d.—No change. Ordered cod-liver oil, iron, hot hip-baths.

May 2d.—No change. Ordered complete change in diet, with larger amounts of food, oil, and lacto-phosphate of lime.

May 20th.—Rapid improvement since last date. Enuresis stopped. The boy from this date went on to rapid recovery, and in a few weeks could use his limbs.

For nearly two years he continued well. He then developed Pott's disease. From this he recovered after a year's treatment with the plaster-jacket.

Case II.—C. L——, aged two; family healthy; was himself healthy and plump until about May, 1881, which was nearly six months before I saw him. The mother says that he was then pushed over and injured by a playmate. Next day had to be put to bed; paraplegia set in, and lasted three weeks. Patient then regained the use of his right leg perfectly, but power in the left returned very slowly. Progress finally stopped; the limb began to grow worse. The boy meanwhile had become nervous, irritable, and had lost his appetite.

October 16th.—First saw the patient. He was plump, but anæmic; could walk, but dragged his left limb. The foot was turned out as in beginning talipes valgus. The left limb was markedly smaller and softer than the right. Electrical contractility slight.

The prepuce was very long, adherent to the glans, red, and inflamed at the end; the orifice extremely small, so that the glans could not be uncovered. The penis was sensitive, the child crying and struggling when it was touched, though this was probably in part from fright. The mother did not wish him to be operated upon. There was no incontinence of urine. The only nervous symptom was the general irritability, which had not characterized him at all six months before.

The patient was put under a treatment of electricity, massage, nux vomica, and counter-irritation to the back. Improvement began at once, and continued uninterruptedly. At date (November 9th) the patient scarcely drags the foot at all; has much more power in the limb; electrical contractility better; appetite returned; nervousness greatly diminished.

The prepuce continues in the same condition. It would doubtless be better if it were removed, but it does not seem to interfere with the progress of the child toward health.

## A TOOTH IN A BRONCHUS FOR FIVE DAYS CAUSES PNEUMONIA—RECOVERY OF THE PATIENT.

By T. R. CHAMBERS, M.D.,
EAST ORANGE, N. J.

Mrs. K——, aged thirty-five; healthy; wife of a farmer.

August 19th.—She had thirteen teeth extracted from the upper jaw at one sitting, by an experienced (?) dentist in New York city. Upon discontinuing the administration of gas (nitrous oxide) she fainted. Then she was seized with severe epigastric pain, urgent dyspnœa, cough, nausea, and prostration. It was several hours before she could be removed to her home in Orange.

August 22d.—The dyspnœa, nausea, and cough continued, and in addition there was severe pain in the left axillary line on a level with the nipples, at which place there was a zone of bronchial breathing and voice, and dulness over a space not larger than a silver dollar. In the neighborhood were mucous râles. This consolidation was preceded for two days by pulmonary congestion. The cough to-day less in frequency and severity. Sputa scanty, serous, and muco-purulent, streaked with blood. Temperature, 102° F.; respiration, 40; pulse, 102.

August 23d.—Temperature, 104° F.; respiration, 38; pulse, 110.

August 24th (sixth day).—At 9 A.M. there was a severe coughing with urgent dyspnœa (the patient says "she thought she would be suffocated"), terminating with a spasm and vomiting, after which relief was obtained. In the matter coughed up and vomited was found a second molar tooth. It was positively certain that it did not come from either jaw at this time, as both had been carefully examined since the illness began. Blood was abundant in the sputa, which was muco-purulent in character. Cough very much easier. The whole lower lobe gave bronchial breathing and voice, with dulness. Temperature, 104° F.; respiration, 44; pulse, 124 (two hours after the coughing struggle).

August 25th (seventh day).—Patient generally easier. Sputa copious and blood-streaked. Temperature, 100.5° F.; respiration, 32, pulse, 100.

August 28th. — Prostration marked. Copious sweats. Blood disappeared from sputa.

September 19th (one month).—Patient up and about. Vesicular respiration returned to lung. Râles abundant.

September 25th.—Patient well, except weak.

A gentleman of large experience in extracting teeth says that, "even when the greatest care is exercised, a tooth will sometimes slip out of the forceps. If it should happen to fall into the throat it will be swallowed. No exercise of skill can prevent this. When it is swallowed it does no harm. If it lodges in the throat—which is a very rare occurrence—it can be thrown out by an emetic." Just so, but in the case cited a whole molar tooth, perfectly sound (heaven forgive the dentist for pulling such a good tooth!), went past the throat, through the glottis to the lung. Here, if it had not been dislodged and coughed out, abscess and almost surely death would have been the result.

Now, where so many teeth are extracted at one sitting, the operator must, of necessity, be expeditious; but it does seem as if there should be time enough to remove entirely from the mouth any tooth or part of a tooth loosened from its bed in the jaw. The person at this time is in a state of induced coma, the sensibility of the larynx is very much less than normal, so that resistance to the entrance of a foreign body past the glottis is likewise diminished.

Thus, it behooves operators to use a care in avoiding this serious accident. Where a patient fails to recover upon discontinuing the administration of gas, every loosened tooth or part of a tooth should be accounted for, and means be employed at once to discover and release the foreign body if it be caught anywhere in the throat or respiratory tract.

THE ELECTRICAL EXHIBITION AT PARIS.—A number of instruments connected with medicine and surgery were shown at this exhibition. New galvanic batteries, invented by Dr. Onimus and Dr. Seure, were displayed. The electrical polyscope of Trouvé was on exhibition; also all the electrical apparatus of the Salpêtrière, including an imposing cabinet that furnished any form of electricity, and a powerful static machine devised by M. Vigoureaux. Dr. Boudet showed a cardiaphone, a sphygmophone, and a myophone; also an electrical diapason for the treatment of pain by mechanical vibrations; and a coil set in a wooden frame and arranged to encircle the head for the electrization of the brain. A prominent characteristic of the medical part of the exhibition was the number and variety of franklinic machines.

# Reports of Hospitals.

## LONDON HOSPITAL, LONDON, ENG.

SERVICE OF DR. STEPHEN MCKENZIE.

(Reported by Wm. J. Belfield, M.D., Chicago.)

### FILARIA SANGUINIS HOMINIS.

THE patient, a robust man, aged twenty-six years, a private in the Royal Artillery, was born and bred in India. Had never suffered any other illness than gonorrhœa. Last spring he landed in Dover, on his first visit to England, in the enjoyment of his usual good health. A few weeks later his urine became bloody and then milky, and has maintained the latter appearance ever since. Upon admission to our hospital, in August, the worms were discovered. Observations taken every three hours soon established the periodicity of their appearance in the blood, first observed by Manson. At midnight there were always from fifty to one hundred in a drop of blood covered by a five-eighths of an inch square cover-glass. The number decreased rapidly until 9 A.M., when few or none were observed. From this hour until 4 or 5 P.M. they were seldom seen, but then regularly reappeared, increasing in number until midnight again. After several weeks' observation, during which this periodicity was constant and uniform, the usual diurnal programme was reversed, the patient sleeping by day, and taking his meals and exercise by night. There occurred at once a serious perturbation among the worms, which now appeared in greatest numbers by day; yet they did not disappear during the night, nor was the crescendo and diminuendo of their numbers so uniform as during the previous mode of life, perhaps in part because his sleep was always more or less disturbed. The usual routine, sleeping at night, has been recently resumed, and the worms have promptly resumed their former hours as well.

The urine has been of milky appearance, 108 to 210 ounces daily; specific gravity 1009 to 1012; alkaline or neutral in reaction, containing one-tenth to one-fourth per cent. (by weight) of albumen, five-tenths to nine-tenths per cent. urea, seven-tenths to one per cent. fat; fibrin, blood-corpuscles, and living filariæ (by day as well as by night); no sugar. Upon standing, large, soft clots are formed; sometimes the coagulum included almost the entire bulk of the urine. These clots were often formed in the bladder, causing great difficulty in micturition. The patient's general health is good. He is quite interested in the appearance and natural history of his parasitic tenantry, and has rendered himself very serviceable at times in counting the worms.

The animals vary from $\frac{1}{70}$ to $\frac{1}{77}$ of an inch in length, and from $\frac{1}{2\times00}$ to $\frac{1}{3\times00}$ in greatest thickness; the average of ten measurements gave $\frac{1}{317}$. They present the usual envelope and structure (or absence of structure) of nematode worms in the undeveloped state. Their movements are at first very active, consisting simply of eel-like contortions, the worms being, of course, incapable of locomotion.

Dr. Mackenzie intends reporting the case in detail to the Pathological Society this winter, in whose proceedings it will doubtless be published.

THE MICHAEL REESE HOSPITAL at Chigago was formally dedicated on October 23d. It is under Jewish management, but is to be non-sectarian.

# Progress of Medical Science.

PERFORATION OF THE BLADDER BY DERMOID CYSTS OF THE OVARY.—Injuries and pathological changes in the cyst-wall occasionally give rise to perforation of the bladder by ovarian tumors, in which case a favorable result is usually observed. Dermoid cysts of the ovary, by reason of their tendency to inflammation and suppuration, are especially prone to perforate into the neighboring organs; and since such cysts have not as yet been discovered in the walls of the bladder, we may with certainty diagnose perforation of this viscus by a dermoid cyst whenever hairs and teeth are evacuated through the urethra. Waelle adds another to the list of such cases. The patient had suffered during a period of five years from dysuria, hæmaturia, and gravel. On exploration of the bladder a foreign body was detected, which, upon extraction, proved to be a tooth. Disinfectant irrigations were ordered, but the patient died shortly afterward with symptoms of acute diffuse peritonitis. At the autopsy a dermoid cyst, as large as a hen's egg and containing a second tooth, was found adherent to the posterior wall of the bladder, there being a distinct communication between the two cavities.—*Centralblatt für Gynäkologie*, August 20, 1881.

TREATMENT OF MALIGNANT PUSTULE.—The results hitherto obtained in the treatment of malignant pustule by cauterization, etc., leave much to be desired. Verneuil (*Progrès Médical*, February 12, 1881) recommends destructive cauterization of the central gangrenous portion, punctate cauterization of the intermediate (vesicular) zone, and parenchymatous injections of iodine into the outermost or œdematous zone. Popper (*Centralblatt für Chirurgie*, August 20, 1881) claims to be able to cure every case of pustula maligna, no matter where situated, within twenty-four hours, if patients present themselves before the stage of systemic infection. His method consists simply in thorough extirpation with the knife, by a circular incision penetrating into the subcutaneous connective tissue beyond the diseased area. The author does not state whether this includes the œdematous zone or not. Should the central slough extend more deeply into muscular tissue, this must also be excised, after which an antiseptic dressing should be applied. It usually requires but a few hours for the swelling surrounding the pustule to subside, and patients are always able to continue their business, excepting, of course, in those cases where general infection has already manifested itself. The author, however, neglects to state what results were obtained in these cases.

ENTERECTOMY.—In a case of strangulated hernia, with gangrene of the intestine, Juillard endeavored, after resecting a loop fifteen centimetres in length, to unite the cut ends by invagination after Jobert's method, but the difference in the calibre of the two portions was so great as to render the procedure impracticable. The ends of the gut were then brought together by four Lembert catgut sutures, applied one centimetre from the margins of the incisions, and equidistant from one another. As each knot was tightened, the lower end of the intestine was folded inward upon itself at this point, and then the corresponding part of the upper end thrust into it. The invagination thus accomplished was then secured by nine additional Lembert's sutures. The case terminated favorably, the bowels moving for the first time on the eighth day.

Juillard recommends the above modification in place of Lembert's plan, as ordinarily practised, for the reason that the sutures in the latter apparently do not hold securely; for in five out of the twenty-five cases with which he is acquainted they gave way. This accident, as far as he knows, has never followed Jobert's method. Despite of the favorable termination in the above case, the author advises secondary resection of the gut in gangrenous hernia. The chief danger in enterectomy is the tearing out of the sutures; this is much more to be apprehended in primary (immediate) than in secondary resections, because in the former the tissues are more friable, the difference in the lumina of the two ends of intestine is greater, and the central portion of the intestine is more distended than in the latter. In all of the five cases in which the sutures had torn through, primary resection had been performed, while out of twelve cases of enterectomy, with subsequent suture for the relief of artifical anus, but two ended fatally, and even in these the sutures had not given way. The best method of procedure, then, in cases of gangrenous hernia, would be to establish an artificial anus, and to close the latter by resection of the gut and suture of the intestine, after a lapse of two or three weeks.—*Centralblatt für Chirurgie*, August 27, 1881.

INSANITY RESULTING FROM DEPRESSED FRACTURE OF THE SKULL CURED BY TREPHINING.—A patient of Dr. Daniel Mollière, suffering from traumatic insanity resulting from a depressed fracture on the left parietal region, presented only vague general symptoms. There was no localized anæsthesia, no paralysis, and no febrile movement. Dr. Mollière, having diagnosticated traumatic insanity due to cerebral irritation from spiculæ of the depressed bone, removed six fragments of bone by means of the trephine, the screw-elevator, a gauge, and a mallet, thus denuding the dura mater. The wound, which was treated by Lister's method, healed in a month. The patient quickly recovered his reason, but evinced a peculiar irritability, and a loquacity comparable to that of slightly intoxicated persons. The symptoms disappeared, however, after a few months, and the patient's functions were thenceforth normally performed.—*Annales et Bulletin de la Société de Médecine de Gand*, May, 1881.

LOCAL TREATMENT OF HAY FEVER.—M. De Budberg, a Swiss observer, draws attention (*British Medical Journal*, July 2, 1881) to a simple, and, as he claims, efficient method of treating this distressing malady. It appears to have been discovered by Helmholtz, and as yet is but little known. The first case was observed by M. De Budberg in an Englishwoman, who had suffered from hay fever for twenty years. The treatment employed consisted of nasal irrigations of a solution of quinine (1 part in 750 of water). This irrigation brought away masses of brownish mucus, in which were found small round yellow corpuscles, of smaller dimensions than the blood-corpuscles. It did not contain either vibrios or bacteria. After two or three douches the patient was perfectly well. The attack was arrested from that time. A solution of chlorate of potash was employed, and no relapse occurred, although the patient frequently passed flowering meadows. Every time that she attempted to suspend the treatment a relapse occurred, which, however, was promptly ameliorated by the use of the douche. M. De Budberg thinks that the yellow corpuscles

found in the nasal mucus of this lady were pollen-corpuscles. The nasal douche freed the mucous membrane from them; hence its curative effect. In cases in which the mucus contained bacteria, Helmholtz's solution of quinine would probably be indispensable. In all cases it is necessary that the douche should be made most carefully, so as to entirely wash out the whole of the nasal mucous membrane. Dr. Blackley, in his excellent monograph, relates that he induced hay fever in his own person by the introduction, on the nasal mucous membrane, of various kinds of pollen. He cites more than sixty different kinds of them—as a rule, graminaceous pollens.

THE USE OF AMMONIA IN PULMONARY DISEASES.—At the meeting of the Royal Belgian Academy of Medicine, April 30, 1881, M. Melsens presented a memoir on the therapeutic applications of ammonia, its salts or its complex compounds, requesting that a committee be appointed to examine into the value of his conclusions relative to this question. M. Melsen's communication discusses the applicability of ammonia and its compounds to diseases of the respiratory organs. He concluded, from the fact that phthisical patients are benefited by inhaling the vapors of carbonate of ammonia emanating from stables, that the continuous and moderate inhalation of that salt would be efficacious in other pulmonary affections. He accordingly made the experiment upon himself during an attack of bronchitis, by wearing, in a bag attached to his shirt, several pieces of ammonic carbonate. Having been completely cured, in a few days, by this treatment, he subsequently employed it in his practice, with uniform good results. He also applies the remedy directly to the respiratory passages, by means of the spray, with equal success.—*Bulletin de l'Académie Royale de Médecine de Belgique*, vol. xv., No. 4.

ACTION OF COFFEE AND SUGAR ON THE STOMACH.—M. Leven has communicated to the Paris Society of Biology some experiments which he has made on this subject on dogs, with the assistance of M. Semerie. The action of coffee on the stomach has been much discussed and variously interpreted; the majority of writers admit that coffee stimulates the circulation and provokes hyperæmia of the gastric mucous membrane, but they have not adduced experimental proof of the fact. The contrary opinion is supported by a certain number of observers, to whom M. Leven has given in his adhesion. He recalls to mind the experiments which he made some years since on caffeine absorbed by frogs, guinea-pigs, and rabbits. It retarded the action of the heart, which, at the same time, became strong; it increased the arterial tension; like the vaso-constrictor agents, it dilated the pupil. Caffeine has even been used in certain cases to replace digitaline, of which it has, to a great extent, the properties, though in a smaller degree. The latest experiments of M. Leven were as follows: he gave to a dog a meal of 200 grammes of meat; he then administered an infusion of 36 grammes of coffee in 150 grammes of water; the animal was then killed, and, at the end of three hours, the stomach still contained 145 grammes of meat, while in the absence of coffee it only contained about one hundred grammes. The abdominal mucous membrane was pale as well on the external surface as in the interior, and the vessels were strongly contracted. It follows, then, that coffee, producing anæmia of the stomach, retards digestion; and, the anæmia repeating itself, ends by bringing on habitual increased congestion of the stomach, which, according to M. Leven, is synonymous with dyspepsia. It is well known, and English physicians have laid great stress upon this point, that the abuse of coffee and tea often brings on gastralgia, dyspepsia, and, at the same time, more or less disturbance of the apparatus of innervation. It is, therefore, necessary precisely to distinguish the local anæmia produced by coffee on the stomach from the more general action exercised by it over the central nervous system, and which has conferred on it the merited qualification of an intellectual drink. In opposition to coffee, sugar is, according to M. Leven, an eminently digestive substance; and he does not fail to order it in certain cases of dyspepsia. He has made the following experiments: He gave to a dog 80 grammes of sugar at the same time as 200 grammes of meat; six hours afterward there was nothing found in the stomach but twenty grammes of undigested meat. The abdominal mucous membrane was red and turgescent, the liver was wholly congested. M. Leven draws this practical lesson from his experiments: that the infusion of coffee should be sufficiently sweetened to stimulate the secretory function, and thus assist digestion.—*British Medical Journal*, July 30, 1881.

RECIPROCAL RELATIONS OF WOUNDS AND MALARIAL FEVER.—The statement is made by M. Verneuil (*Tribune Médicale*), that the malarial dyscrasia may manifest itself in various surgical affections, developed simultaneously with the ordinary rational symptoms of the disease. The author cites local gangrene, lymphangitis, furuncles, carbuncles, erysipelas, and visceral hemorrhages, as among the surgical diseases engendered by the malarial poison. The affections may be of a clearly periodic type, or may recur at irregular intervals. Two classes of cases are cited by M. Verneuil. In the former, the malarial diathesis appears during an old or a recent surgical affection. In the latter, surgical diseases appear spontaneously during the persistence of the malarial dyscrasia. In the latter case, the intercurrent malarial disease, exerting its chief influence on those tissues least capable of resistance, naturally selects the wounded member as the seat of its pathological manifestations. It is therefore here that phlegmonous inflammations, ulcerations, and chronic neuralgias are encountered. "The traumatism," says the author, "creates nothing in the diathesis. It only provokes the apparition of manifestations which the diathesis would have spontaneously produced at another time." The relations of the malarial poison and of traumatism are, however, of a reciprocal nature. If therefore a wounded person is subjected to the exciting cause of the malarial disease, the latter is much more liable to become developed than it would be were the person exposed unwounded. Persons apparently entirely recovered from malarial fever frequently trace relapses to the depressing influence of a surgical injury. Mons. V. concludes his article with the comprehensive statement that "traumatism modifies, recalls, attracts, or awakens malarial manifestations," and makes an inquiry regarding the possible existence of hereditary malarial disease.—*Annales et Bulletin de la Société de Médecine de Gand*, June, 1881.

A REMEDY FOR HICCOUGH.—Dr. M. S. Leslie, of Lexington, Ky., says that the best remedy in ordinary hiccoughs is about twenty-five grains of common table-salt, placed in the mouth and swallowed with a sip of water.

# THE MEDICAL RECORD:

## A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., Editor.

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## PROFESSIONAL FEES IN THE LATE PRESIDENT'S CASE.

WITHIN the past few days there has been considerable discussion in the secular press as to the amount to be charged for professional attendance upon the late President Garfield.

As can easily be imagined, various opinions obtain, not only regarding the actual worth of the services rendered, but as to the means to be adopted to secure payment for the same. All sorts of rumors have prevailed in reference to charges already made by the attending surgeons and consultants. Although such widely circulated statements are now proven to be without any foundation in fact, they have served as the bases for many learned articles upon the value of professional services, and in the majority of instances have been used as texts for the exorbitance of professional charges in general. It is now, we believe, generally understood that no formal bill will be presented. This, we believe, is a wise conclusion on the part of the staff in attendance, and removes from its members all the responsibilities of definitely fixing the value of medical services, and gives them an opportunity for placing the same above the mere level of pecuniary consideration. The case is a leading one in many particulars, and can be safely left to the chances of a suitable honorarium for each. The position of President Garfield, the circumstances attending the shooting, and the conditions of his after-treatment, naturally made him the Nation's patient; and there is no question, except in the minds of a very few, as to how and by whom the honorarium should be tendered. Evidently Congress is the proper medium through which the bestowal of any rewards should be made. There is no doubt that the desire of the people of the United States is to liberally compensate the gentlemen who have been in attendance, and that a suitable appropriation will be made in their behalf. In the case of an ordinary individual with ample means, the charges which could be legitimately made would be necessarily very high. The Nation demanded from the attendants upon the distinguished patient a sacrifice of all private business, and a readiness to respond to every call that might be made upon their time, to the exclusion of every other business consideration. That each and every member of the staff fulfilled such part of their duties no one can question. Whatever may be said concerning the degree of skill displayed in the treatment has nothing to do now with the estimation of the amount to be tendered to the staff. It is sufficient to understand that the parties employing the attendants were satisfied with the result of treatment, and were persuaded that nothing more could be done for the patient. But we cannot imagine that any objections can be urged on such grounds against the payment of a suitable sum for the services rendered.

In other countries, where similar services have been rendered, not only have large sums been voted in compensation therefor, but the governments have recognized them in an equally substantial manner by the conferring of titles and the bestowal of special privileges. Such examples cannot be followed in this country, save to a very limited extent. There is no doubt that the Government will do its utmost in the direction of showing its appreciation of the skill and devotion exhibited in the surgical care of our lamented President. The least that can be expected in this way is a formal vote of thanks by Congress to the staff, with the usual privileges attending such a recognition of distinguished services. This is possibly all that can be done in that line for the citizen surgeons. With the army officers who were in attendance the opportunities for expressing Governmental appreciation will not be so limited. The advancement in rank of both officers would be a becoming and graceful acknowledgment of work well done, and would be a direct and acceptable way of complimenting the profession of the country. These gentlemen were detailed by the Secretary of War for service at the bedside of the President, and, having faithfully performed their duty, are deserving of reward. It would not be without precedent to establish special grades for distinguished services, and this seems eminently fitting, in view of the danger of otherwise disarranging the legitimate lines of promotion. The time for the retirement of the Surgeon-General will soon arrive. If he be retired as major-general, Congress will have an opportunity of expressing, in an acceptable and becoming manner, its appreciation of faithful service. With the same disposition to do honor to Surgeon Woodward, an extra colonelcy might be created and he be promoted to that grade. These

are perhaps the only means which Congress can make use of, aside of the appropriations to be made, to reward each and every member of the staff according to his merit.

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CONSULTATIONS WITH HOMŒOPATHS.

THE British medical man is not easily disturbed in the solid convictions that have been handed down to him, and he is particularly ready to resent any attempts to displace the established opinion of himself and his associates. The extreme ill-grace with which the most liberal overtures from the homœopaths in England have been met well illustrate this.

But during the past year there have been a number of occurrences which show that English medical men are being somewhat more disturbed than usual in their opinions; regarding this latter subject, they seem, indeed, to be actually changing them.

Dr. Quain, in his connection with Dr. Kidd, found support not only among the oldest and most eminent of London medical men, but he was defended by leading and representative journals. And now, despite the magnificent platitudes with which the *Lancet* lachrymosely discoursed upon the event, the profession in general has indorsed his conduct, while the Queen, it is said, will confer upon him the honor of knighthood.

The spontaneous and unconcerted utterances of Mr. Hutchinson and Dr. Bristowe, before the British Medical Association, furnish another evidence of a change of opinion upon this much-mooted subject of homœopathy. These gentlemen both expressed it as their deliberate opinion that the present antagonism toward homœopathic practitioners was unwise, and was also often ungenerous and unjust. While announcing this opinion, Dr. Bristowe showed with unapproachable clearness that, as a scientific system of therapeutics, homœopathy can have no standing.

But now comes an additional blow to the conservatives, and a still more remarkable evidence of a change of heart in the British practitioner. The Lancashire and Chesire branch of the British Medical Association recently refused to affirm the (in England) unwritten law of the profession that the practitioners of scientific medicine shall not meet homœopaths in consultation. The question is at once asked by the *Lancet*, "whether the members of this (the British Medical) Association are wholly given over to a libertine disregard of honor and consistency?" Whether the journal in question considers Mr. Jonathan Hutchinson and Dr. Bristowe as libertinous and dishonorable or not, we cannot say; but there must be something wrong in the logic which condemns these men, as well as a whole medical society, in so a sweeping manner.

It can be proved by abstract reasoning, no doubt, that a scientific practitioner and an old-fashioned homœopath have nothing in common. But it might be asked, if this is so, what is the necessity of forbidding by law the association of men who cannot associate. There is hardly need of regulations to enforce the impossible.

The broader principle seems to be, that educated, intelligent, and honorable medical men should be allowed to associate and consult, if they wish, whatever their special therapeutical views. But there may be a few, like Dr. Quain, Dr. Bristowe, Mr. Hutchinson, and the members of the British Medical Association referred to, who do not think in this way.

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THE DEBATE AT THE NEUROLOGICAL SOCIETY, ON REFLEX DISTURBANCES FROM GENITAL IRRITATION.

THE paper and debate on reflex disturbances from genital irritation, which took place at the Neurological Society and is reported in this issue, will be read with considerable interest, both on account of the subject discussed and the prominence of the gentlemen who took part.

The points at issue can be easily stated. The reader of the paper, Dr. L. C. Gray, took the ground that there is no demonstrative evidence that genital (more particularly preputial) irritation can alone cause paralysis by reflex influence. He even asserted further that reflex nervous disturbances of any kind were rarely caused in this manner. In the cases, especially those of Dr. Sayre, which have been reported as illustrating such conditions, there was, he thought, lack of evidence in proof of the point claimed.

A careful study of the many facts presented at the meeting will enable one to draw some quite positive conclusions regarding the question at issue.

First, clinical and experimental studies show that reflex paralysis from preputial irritation is *à priori* a very possible thing. In addition, there are a few histories, such as that of Dr. Burchard's, which seem to prove that it has actually occurred and been observed.

Again, the evidence that there may be reflex paralysis from irritation or injury of some part of the sexual sphere is demonstrative, so far as clinical facts can demonstrate anything. In support of this may be instanced the cases of injured testes with paraplegia (Hammond, Spitzka), irritations of the urethra and bladder, and of the neck and body of the womb (Seguin).

Finally, the fact that genital irritation can cause reflexly all kinds of nervous disturbances, psychical, sensory, trophic, and motor, may also be considered an established one.

But, though the above conclusions may safely be formulated, they should always be mentally associated with certain other facts. Reflex paralyses

and other disturbances may, it is true, occur under the above conditions; but there are thousands of persons who have genital irritations and yet have no reflex symptoms therefrom whatever.

On the other hand, there are many cases—perhaps a majority—in which nervous troubles and genital irritations are combined; yet the latter stand in no causal relation to the former, and operations produce little or no effect. This side of the matter was but slightly brought out in the discussion, and only hinted at by Dr. Gray and Dr. Beard. We shall never have the records of the many cases in which prepuces were removed and meatuses slit with no benefit to the patient.

Now, from these last two series of facts there can be but one logical deduction: it is that genital irritation in most cases is only one factor in producing reflex disturbances. As regards reflex paralysis, such irritation is very rarely the sole or chief factor. It is a more efficient and frequent element in the production of functional nervous disturbances other than paralysis.

We may formulate this conclusion by saying that genital irritation is very frequently a causal factor in producing reflex nervous disturbances. It is not rarely an important causal factor, but it is very rare indeed that it is the sole cause.

The lessons from this debate are, not to accept too readily the view that paralysis or other nervous troubles in a given case are functional and due to an irritable prepuce, a small meatus, etc. At the same time the practical measures to be taken are not to be very much modified by theoretical considerations. The genital irritation should, as a rule, be removed, even if it is but a slight element in the production of symptoms, and even, in some instances, where paralysis is due to structural changes in the nerve-centres. One has only to remember, in making his prognosis, that improvement or relief may quite possibly not occur, or, at least, not be permanent. Furthermore, it is not so certainly established that circumcision and urethrotomy may not do harm. We had the curious fact brought out that circumcision may produce a contracted meatus, and this latter is a genital irritation for Dr. Otis, just as the tight prepuce is for Dr. Sayre.

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Women's Hospitals in China.—The Women's Hospital was opened at Tienstin on October 8th, in the presence of Li Hung Chang and other Chinese officials of high rank. Mr. Angell, the United States Minister to Pekin, who is about to return by way of Europe, delivered an address. Miss Howard, M.D., the American missionary lady who was instrumental in the care of Lady Li, wife of the Viceroy, when her life was despaired of by all of her Chinese medical attendants last year, is in charge. The hospital just established in Tienstin, and another in Pekin, are solely due to the influence of Miss Howard. Foreign medicine in China is now in consequence in great favor.

# Reports of Societies.

## NEW YORK NEUROLOGICAL SOCIETY.

*Stated Meeting, November* 1, 1881.

Dr. T. A. McBride, President, in the Chair.

The paper of the evening was read by Dr. L. C. Gray, the title being,

### THE QUESTION OF REFLEX DISTURBANCES FROM GENITAL IRRITATION.

The speaker reviewed the history of the subject, and took the ground that the old theory that there might be reflex paralysis from diseases of the genito-urinary tract was not well founded. This view had after various discussions been quite generally accepted in Europe, until recently Brown-Séquard revived and expounded it again.

The subject deserved especial attention now, however, because Dr. L. A. Sayre had a few years ago announced the belief that paraplegias might be caused by preputial irritation. Dr. F. N. Otis had also claimed that many reflex symptoms of various kinds might be due to strictures, contracted meatus, etc. The speaker, therefore, proposed to examine the question: What evidence is there that genito-urinary irritation may cause reflex paralysis?

The cases reported by Dr. Sayre in support of his view were then read and analyzed seriatim. The speaker argued that in some cases the previous or subsequent histories were imperfect. In one patient the disease appeared to be really spinal hemorrhage, in another, an anterior poliomyelitis. A few cases, it was admitted, seemed to prove the reporter's view, but the details were incomplete, and they could not be cited in evidence. In all, the speaker said, Dr. Sayre had reported eighteen cases in proof of his position; yet not one of them, when critically examined, was sufficient.

In two cases the evidence was quite strong, so far as it went, but was incomplete.

In three cases there seemed to be impaired motion from the irritated genitals.

In one case there had been probably an intra-uterine spinal meningeal hemorrhage; in another, myelitis of the anterior horns.

In eleven cases the histories were too indefinite.

The speaker had received assurances from Drs. Weir Mitchell, Da Costa, Weber, Spitzka, Kinnicut, McBride, Hammond, Jewell, and others, that they had never met with any case of paralysis due reflexly to genital irritation. The speaker's personal experience agreed with that given by the above-named gentlemen.

In view of the foreging data, the conviction seemed irresistible that reflex paralysis could not occur from genital irritation, or, at least, occurred very seldom.

There is, however, good reason to believe that operative procedures often cause relief, especially in the later stages. There are cases in which the operation for phimosis is beneficial to the patient, although we know that the preputial irritation is not the cause of the disease. Thus, the speaker related a case of Dr. C. F. Taylor's, in which circumcision markedly relieved a post-diphtheritic paralysis.

Dr. Gray had had cases, in his own experience, which illustrated this: in one, the operation for phimosis relieved the paralysis temporarily, but the

symptoms returned, the child died, and autopsy revealed a tuberculous meningitis.

In a second case, the diagnosis of myelitis of the anterior cornua was made. There was a long and tight prepuce. After several months of ineffectual treatment, circumcision was performed. Great improvement resulted, which was maintained.

The third case was one of rhythmical tremor of the extremities (not of head or neck), which was increased by excitement and voluntary movement. There was diplopia. The patient, a man aged twenty-three, had worked in a brass-factory for several years and had inhaled the fine metallic dust. Diagnosis: tremor of disseminated sclerosis type, due to inhalation of brass. After treatment he greatly improved. He had phimosis, for which he was circumcised. For two months subsequently he had no return of tremor.

It must be remembered that when a genital irritation is removed by operation, we have several factors at work. An irritant is removed from an exquisitely sensitive organ, and the genitals obtain rest. The profound impression made upon the nervous system by chloroform or ether narcosis must be considered. There are many examples of the powerful results this may produce. The effect of the cutting operation in itself upon the nervous system may also be great.

The more excitable and impressionable the nervous system, the more active will these three factors be, particularly the latter two.

The cases cited by Dr. F. N. Otis show that removal of genital irritation will remove a host of nervous symptoms; but there are no data on which any man can judicially formulate an opinion that these symptoms might not be due to organic lesions.

The speaker was not prepared to deny that reflex paralysis might not occur from some causes. It is known that they can be produced in a limited way experimentally, by squeezing the kidneys of a rabbit, for example, or by cutaneous impressions, such as putting a rubber ring about the neck of a frog. Our knowledge of the inhibitory actions of the nervous system would also lead us to think reflex paralysis possible. But there is no proof which demonstrates that such a condition can result from genital irritation

The practical deductions are very important. We should never assume that nervous symptoms are due to genital irritation—we should search for organic disease. But genital irritation should always be removed. There is a great prevalence among Jews of a contracted meatus, due, no doubt, to circumcision. We should be careful not to deprive the glans of its covering unless it is necessary. Dr. Jacobi says that by simply breaking the adhesions of the prepuce he has succeeded in dilating the orifice.

While it is probable that slight nervous disorders can be produced by genital irritation, yet the proofs of even this are not complete.

In the discussion, Dr. L. A. Sayre said that the speaker had given him much information in regard to what might be the early or late history of the class of cases he had reported. Referring to Dr. Gray's statement, that the literature of the subject had received a number of contributions before the speaker published his cases, he said when he began the study of the matter he had considered himself first in the field. In standard text-books, also, he had been quoted as the first to draw the attention to the subject of paralysis from genital irritation.

The fact that some of his cases were paralyzed, and that, after operation, they recovered and remained cured, was one that could be demonstrated. Dr. Gray had intimated that in one case an apparent paralysis existed only because of the exquisite tenderness of the parts, which friction of the clothes increased. But if so, why could not the child move, as he could not, when perfectly naked? After circumcision, without any constitutional treatment, the patient recovered complete power.

It was hard to see how, in cases of paraplegia, where immediate and permanent recovery followed operation, there could have been any organic change in the cord. In such cases, where, as the reader of the paper had done, a diagnosis of organic change is made, he should be much inclined to doubt the diagnosis. He might not have been sufficiently careful in giving the minute details of his cases, but that they had paralysis and were relieved by operation he was positive.

The number of the speaker's cases confirmatory of his view had now increased to over one hundred.

The fact that the operation had now often been performed unwisely did not weaken the view that it was a necessary and useful one in its place.

The speaker recalled a case of paralysis from a blow on the outside of the leg. This showed that injury to the peripheral surface of the nervous system might cause paralysis.

To show also that paralysis might follow in other parts than the legs, the speaker read the account of a case sent him by Dr. Knapp.

The following is the history of the case:

Louis H——, German, aged thirty-four years; married four months; very stout and active, "but very nervous, getting tired very easy." Eight years ago began to have trouble with his eyes, finding that he could read only a little while at a time, getting then so nervous that he would throw his book away, and could not again read for some hours. Can now read only a very few minutes at a time, and very large print; has consulted various surgeons in Europe and here, without benefit; sent to me Feb. 20, 1875, to be operated upon for phimosis.

Has never seen the glans penis. Prepuce very tightly contracted, elongated, and twisted to the right side.

February 22d.—Cut off the end of the prepuce and divided mucous membrane—which was very tough and thick, almost fibro-cartilaginous—with bistoury down to the corona; stitched mucous membrane to tegumentary prepuce, and dressed with oiled rag.

February 23d.—Very comfortable; no inflammation.

At the end of one month he was perfectly well and could read, and did read in my office a whole page of the *American Journal of Medical Sciences*, even down to the fine print, "Entered according to Act of Congress, etc.," at the bottom of the page, without the aid of glasses or being at all fatigued.

In regard to the improvement in the eyes, Dr. Knapp wrote Dr. Sayre under date of November 14, 1881, as follows:

"My Dear Doctor: I recollect the patient well. His sight after the operation had materially improved, both as to acuteness and capacity for prolonged use. He has consulted me several times since. He has still incomplete atrophy of the optic nerves, and moderate amblyopia; yet I consider it a great result that the atrophy has not progressed, and the patient always expressed his satisfaction and gratitude to you.

"With kindest regards, yours very truly,

"H. Knapp."

November 14, 1881.

Dr. F. N. Otis said that he had come there hoping to learn something new, but he had been disappointed so far, except as regards what Dr. Sayre had said about the permanence of his results. The speaker had not seen cases of paralyses of the kind described by Dr. Sayre, but he believed in their existence on account of the many analogous cases met with in his own practice. He believed that there was something more than coincidence in the histories of all kinds of nervous disturbances becoming at once relieved after removal of a genital irritation.

The speaker related the case of a prominent medical gentleman of this city, who suffered from melancholia to such an extent as to interfere with his business and all his habits. He consulted Dr. Otis for a urinary irritation. A contracted meatus was found. In making an examination, the meatus was considerably dilated, it being done without expectation of its affecting his general condition at all. Nothing more was done. The patient came back in three or four weeks, saying that the intense relief to his melancholia had been so indelibly associated with the distention of the meatus, that he wished the operation repeated. This was done, and relief again obtained. The operation was repeated at intervals of three or four months for several years, the patient objecting to urethrotomy. The meatus was finally permanently dilated, however, after which he had no mental trouble whatever. In this case the speaker recognized a distinct reflex influence of the genital irritation upon the brain; he did not think it was a coincidence or a case of organic disease. A similar case, relieved by removal of prepuce, was related. Many cases of seminal weakness, and of various other nervous disturbances, which disappeared after removal of the prepuce, could be recalled.

A gentleman of this city, fifty-eight years of age, had called on him once, saying that his wife had died about a year before. He had recently attempted to have connection, but had ignominiously failed. Yet he did not think himself old enough to have lost all sexual power. The speaker found an irritable prepuce, with much sebaceous matter upon the glans. Circumcision was performed and sexual power restored.

The speaker had met with so many cases of this kind, that he had come to look upon the prepuce as of no use, and considered persons better without it.

With regard to the Jews, who, it has been said, had, in the majority of cases contracted meatuses, he thought this true. But, on the other hand, a great many people have contracted meatuses anyway, just as every one has some slight physical defect of some kind or other.

It did not make much practical difference in treatment, because the persons were better with the meatus enlarged, whatever the theory.

The speaker announced his very positive conviction that reflex paralysis from genital irritation was possible.

He related the case of a boy, who, two years ago, was brought to him complaining of lameness and showing some of the symptoms of hip-joint disease. The patient had phimosis, and circumcision was performed. This gave some relief. A short time ago the boy was brought back with many of the former symptoms. The thigh and leg on the affected side were slightly atrophied. The meatus was found to be contracted to 12 when it should be 22. Dr. Otis dilated to 22, and had recently received a note saying that the lameness had disappeared entirely.

Dr. Sturgis thought that there could be no doubt regarding the existence of reflex irritations. With regard to the question of reflex paralysis, he would suggest that, so far as the evidence of Dr. Sayre's cases went, the verdict of not proven might be given. Still there was no reason to suppose why genital irritations in men should not produce paralyses similar to the hysterical paralyses that occur from like causes in women. He recalled a case of paraplegia in a woman suffering from gummous ulceration of the neck of the womb. The paralysis appeared to be due to organic lesion. But a sudden fright caused the woman to get up out of bed.

The speaker thought that the claim of Dr. Gray was too sweeping. He suggested that the matter might be put in another way, and that it might be said that the claims of the reader of the paper that there was structural disease in these cases was not demonstrated.

Dr. E. C. Seguin said that his experience was that reflex troubles might occur from preputial and other genital irritations. He agreed with Dr. Otis in reference to most of that gentleman's statements. He had never seen a case of reflex paralysis from irritation of the male sexual organs. But every day he saw cases of paralysis due to structural diseases of the cord, which had been operated on as cases of genital irritation. He did not deny that there were any cases of reflex paralysis from genital irritation, but he was waiting to see a case of that kind. He believed in relieving genital irritation, but he would not operate with hope of relief in cases of contracted legs or paralysis with wasting in which there were undoubted evidences of disease of the cord.

With reference to the Jews, he had found that they did have contracted meatuses. He had had a great many Jewish patients, and almost every male examined had this defect. He thought, also, that the Jews presented, with a remarkable degree of frequency, reflex irritation of the sexual apparatus.

The speaker had a number of cases sent him by Dr. McGuire, of Washington, D. C., but there was not time to read them. We publish them in this connection. Dr. McGuire is physician to the Department for Diseases of Children, Central Dispensary. In the past year he writes that he has examined the genitals of seventy-five boys complaining of nervous symptoms. In nearly every case he had found either elongated prepuce or adhesions, or both. Amelioration, and more frequently success, followed removal of the abnormal condition, almost always without the assistance of drugs.

Case I.—J. M——, aged eighteen months, had been troubled with incontinence of urine for several months. Prepuce much elongated. Performed circumcision January 15, 1876. No medicine was given. Perfect relief obtained. No return of trouble to this date.

Case II.—J. W——, aged eight. This boy had continual incontinence of urine for several years. Drawers were always wet. Prepuce much elongated and adherent. Performed circumcision April 16, 1880.

May 13, 1880, the dribbling during the day has almost ceased. He has passed water in bed four times at night since the operation—the first time three days after the operation. Small doses of strychnia were given. There was marked improvement, but not perfect success. Medication was continued At present he is well.

Case III.—G. T——, aged ten. April 15, 1880, complained of constant pain in popliteal space of left

leg, great weakness of the legs, headache, palpitation on the least exertion. Broke down adhesions, which extended to orifice of urethra; gave no medicine.

June 22, 1880, perfect relief; no return of symptoms.

CASE IV.—January 15, 1880, John D——, aged nineteen months, cannot walk, stands with difficulty; head is thrown well back; is peevish, restless, and bow-legged; whines continually. Ordered malt, cod-liver oil, and hypophosphites. May 6th, the child is stronger, but the above symptoms still persist. Examined penis. Adhesions broken down and smegma removed. Medicine continued. May 20th, marked improvement; adhesions had reunited. Again broke them down. August 16th, child walks readily.

CASE V.—John B——, aged two, has great muscular debility of the lower extremities; locomotion difficult. Prepuce elongated. Circumcised June 21, 1880. 28th, much stronger, walks better. August 16th, improvement continues. There is slight inclination to talipes valgus. This case has required constant care to the present time. His condition is very favorable.

CASE VI.—July 29, 1880, W. Williams, aged three, cannot walk readily. Has incontinence of urine. Broke down adhesions and removed a large amount of smegma. October 18th, no return of incontinence. Walks much better.

CASE VII.—Charles N——, aged six. This child was very backward in walking; is now weak in lower extremities; has incontinence of urine, and inguinal hernia. August 5, 1880, broke down adhesions, and removed a quantity of smegma. August 19th, marked improvement. September 6th, much stronger. No return of incontinence.

CASE VIII.—C. R——, September 23d, aged two and one-half. Is unable to stand; very little power in legs; muscles of thigh loose and flabby. Circumcised and broke down adhesions. Ordered malt and hypophosphites. October 31, 1881—to-day the child runs around readily.

CASE IX.—Jos. W——, aged two. August 16, 1880, walks with great difficulty, drags his legs, and is easily pushed down. Adhesions were broken down. August 23d, walks without dragging his legs. September 27th, circumscised. October 4th, marked improvement. The progress in this case was not so decided as in others. Gaiffe's battery was applied This seemed to be beneficial.

CASE X.—Pierce W——, aged two. Stumbles on coming in contact with the least elevation, walks very awkwardly. Slight talipes varus. Circumcised and broke down adhesions. Marked improvement.

CASE XI.—Wm. F——, aged three. Is unable to stand; has laryngismus stridulus. Muscles of thighs and legs very poorly developed. The laryngismus was treated for one week, without any improvement. Then he was circumcised, and the treatment continued. One week later this was better, and he could stand by a chair. Improvement was continuous and rapid.

CASE XII.—Willie B——, aged one. Is very weak throughout the whole left side. This side is not so well developed as the right. He drags the left foot when he crawls, and has had frequent convulsions. Circumcised and broke down adhesions. Three weeks later the child had much better use of his extremities. The improvement continued. Electricity was used.

CASE XIII.—Edward T——, aged eleven. Incontinence of urine. Broke down adhesions. No improvement.

CASE XIV.—William E——, aged four. This child had a severe case of talipes equino-varus. The tendo Achillis was cut and the foot brought into position. About four months afterward, I noticed the prepuce much elongated. Circumcised and broke down adhesions. Brace was applied and electricity used. The improvement was rapid and excellent.

CASE XV.—Richard G——, aged four. Incontinence of urine. Circumcised and broke down adhesions. Perfect relief.

CASE XVI.—William B——, aged thirteen. This boy had convulsive seizures almost continually—sometimes forty or fifty in the twenty-four hours; would awake and scream out during the night; easily excited, and would at times be almost uncontrollable. Prepuce elongated and adherent. Broke down adhesions, December 15, 1880. Ordered no medicine. I saw him again January 11, 1881. He had not taken any medicine since I broke down the adhesions one month ago. The attacks during the day recurred very rarely. The night attacks were much less severe. Circumcised him October 23, 1881. The improvement has been decided and continuous. For a while after the circumcision there was immunity from the convulsive seizures for a week or more at a time. Then they would return occasionally at night. To control this, bromide of potash was given. Now he goes to school regularly. His teacher gives excellent reports of his behavior and progress in his studies.

CASE XVII.—Joseph L——, aged six weeks. This was one of the most interesting and pronounced cases that has ever come under my observation. He had never had a good night's rest since his birth, and had to be drugged to secure the least rest. He cried almost incessantly night and day. The legs were in constant motion, sometimes striking the abdomen. The penis was in a state of priapism. As soon as it was touched, the convulsive movements were augmented in severity and rapidity. In each inguinal region small tumors appeared when the child cried. I circumcised him March 28, 1881. As there had been such severe muscular action, I ordered half-grain doses of chloral every hour until quieted. During the ensuing four days he took eight grains of chloral; then medicine was discontinued. All the nervous symptoms had disappeared. The child slept readily. Three months after the operation, the mother informed me that from the second day thereafter she had not had a particle of trouble with her boy.

CASE XVIII.—B. P——, aged ten weeks. Had not had a good night's rest since his birth; cried and fretted almost continually; was in constant jactitation. The urine would accumulate under the prepuce and dribble out through a very small orifice. The head was thrown back on the spinal column. The mother said that she used to pass a handkerchief around the head and fasten the ends of the handkerchief to the belly band to keep it erect. Performed circumcision. Did not order any medicine. Every symptom of irritation disappeared. Three months later there had not been the least evidence of return.

CASE XIX.—A. F——, aged thirteen, had shown great muscular debility in the lower extremities from birth, especially in the left leg. This leg would give way under him; he would fall in the street and around the house. He complained of dizziness and pain in the lumbar region; also had

nocturnal incontinence of urine. Prepuce firmly adherent, almost to the orifice of urethra. I broke these down January 19, 1880. No medication was employed. There was no return of a single symptom, except upon one occasion there was incontinence of urine. He has continued to grow stronger, and is to-day (October 31, 1881) brighter than ever before.

Dr. G. M. Beard said that he had been engaged in studying the subject from a neurological standpoint for a considerable time. He had presented some of his conclusions in a general way at the meeting of the American Medical Association two years before.

He believed, in the first place, that the great majority of persons who have either a contracted meatus, or redundant prepuce, or phimosis, are just as well as anybody else. From this it might be presumed that genital irritation was not the sole cause, at least of reflex troubles.

As regards his own experience, he had found that the result of operations for the removal of genital irritation had been generally very unsatisfactory. The cases, however, in which he had had the operation done were generally those of that condition—call it what one pleases—of neurasthenia, cerebral hyperæmia, or anæmia, etc. In some cases there had been slight improvement; in one case this was very marked.

In judging of the results, the action of the mind on the body must be taken into account.

Dr. Agnew, of Philadelphia, had told the speaker that he operated once for preputial irritation, and it helped the patient. In fifteen or sixteen other cases it did no good at all. Dr. Beard thought that the Jews were quite subject to nervous troubles, despite the absence of a prepuce. He was of the opinion that circumcision might actually do harm. He recalled one case in which impotence followed the operation.

Dr. E. C. Spitzka had never seen a case of reflex paralysis from genital irritation. But he had some strong reasons for thinking that it might occur. There was now at the Central Park Menagerie an eland with posterior paralysis, which followed the tying of an elastic ligature around the scrotum for the purpose of altering the animal. The speaker also referred to a case of posterior paralysis in a horse, in which the only lesion, except a few cysts in the ovaries, was an extensive, though but slightly progressed, nephritis. It is generally recognized that posterior paralysis in horses points to renal disease. In almost every form of renal disease paraplegia may occur.

Dr. William A. Hammond said that while it was true he had never seen a case of paralysis due to genito-urinary irritation, yet he had seen paraplegia following injury; for example, in a dragoon whose testicles were smashed. He had seen several cases of paraplegia following strong urethral injections, and had seen it apparently result from cystitis.

The speaker was prepared to admit, therefore, that preputial irritation can give rise to a paraplegia.

He did not see how Dr. Gray could refuse to admit the various paralytic troubles and hysterical symptoms that occur in females from genital irritation. He must be familiar also with the fact that catheterization of the male sometimes produced syncope, which was the evidence of a partial heart-failure or paralysis. Dr. Gray might, perhaps, make out his case if his position were that preputial irritation had not been shown to be the cause of reflex paralysis. As regards genital irritation in other parts, however, the claim of the reader could hardly be sustained.

Dr. Burchard said that he thought it but due to his friend and former preceptor, Dr. Sayre, to relate a case in which there was unmistakable paraplegia dependent on preputial irritation due to phimosis. It was entirely cured by an operation, and the patient had subsequently been under his observation, so that he knew that the cure was complete.

The patient was a young man who had paraplegia and strabismus. He had for several years been under the care of eminent surgeons and neurologists in this country and France. These gentlemen had considered it a case of paraplegia due to organic change in the spinal cord. The speaker saw him at Saratoga, inconnection with Drs. Hamilton, McBride, and Lente. The penis was found to be excessively sensitive, so that the merest touch caused intense reflex symptoms. The prepuce was very long, the penis quite diminutive. An operation was performed, and within a week after the patient had lost all his paraplegic symptoms. His strabismus had also disappeared, his gait was as perfect as that of any one, and he was absolutely cured.

Regarding the early history of the patient, the mother had said that when a boy he suffered a great deal from irritation of the penis. At the age of ten or eleven these symptoms disappeared. After this the paraplegia slowly developed. He was sixteen years old at the time of the operation.

In the same summer the speaker saw a patient who had been under Dr. Loomis' care for epilepsy. Dr. McBride had seen him in an epileptic fit. This patient had phimosis. The prepuce was removed, and since then no fits had occurred.

Dr. Birdsall thought that one point had been lost sight of in the discussion. Dr. Gray had referred to the different factors at work in the cure of this class of cases. One of them was the removal of the irritation, but another was the effect upon the nervous system of the operation itself. The experiments in nerve-stretching for such diseases as locomotor ataxia, neuralgias, etc., showed that injuries to the nerves had a powerful effect upon the system in general.

The speaker had recently had his attention called to the cases of Hebrew children where circumcision had been performed, and where excitation of the genital organs caused just as much trouble as if circumcision had not been performed. In another case circumcision had been performed without benefit.

Dr. Spitzka recalled two cases of paraplegia due to organic disease. Dr. Sayre had seen them and pronounced them unfit for operation. In both cases an operation was performed; in one of them some harm resulted.

Dr. Seguin said that he had never seen cases in which the operation had done harm. He had, on the other hand, seen a number of cases in which temporary improvement took place.

The speaker added that he had seen paralysis result from irritation of the sexual sphere, from irritation of the deep urethra, and from disease of the womb. He was not sure that he had seen paraplegia from ovarian disease. He had seen two cases in which treatment of uterine disease brought about cure. One was a case of laceration of the cervix with partial paraplegia. The other was a lady from Bermuda, who had subinvolution with marked paraplegia. She recovered very rapidly under proper treatment for subinvolution.

Dr. Gray, in closing the discussion, said that he

had been misapprehended in several points. He had distinctly given Dr. Sayre the credit of having made the subject under discussion known to the profession. Dr. Gray then reviewed briefly the position he took and the argument he had made. He said in conclusion that, up to the time of the present meeting, there had not been in his opinion demonstrative proof that reflex paralysis or irritations could be produced by genital irritation alone. He was not yet convinced by what had been said that his position was an incorrect one. Yet some of the facts recently given needed careful analysis and study.

[Dr. Sayre had a number of other cases which he intended to have read, but, through a mistake, the records were left at home. We insert some of them here.

CASE I.—*Partial Paralysis and Inco-ordination from Phimosis.*

June 15, 1875.—Henry Behrens, aged thirty-one months, 207 Graham Avenue, Williamsburg. Began walking when about a year old. Until twenty months of age he ran around freely and seemed to notice everything, being able to understand much that was said to him, and to call papa and mamma, and to say some other simple words. Up to that time had slept tolerably well, ate well and properly, as any other child. At twenty months of age was noticed to become nervous, moving his hands and feet in a peculiar way, and making a strange noise. In a few minutes would pass water, and then seemed to be free from all these symptoms. Would sit still all day in a chair, if left to himself, without noticing anything or attempting to speak. If he attempted to walk, his gait was unsteady, and he would fall forward to the floor. He never seemed satisfied with what he had to eat, always stuffing his food into his mouth as if he were starved, and acted and looked idiotic.

*Present condition.*—Very unsteady gait, moving about as if he were intoxicated, and falling down after every few steps. Elongated prepuce, with extremely small orifice.

*Treatment.*—Circumcision; found mucous membrane adherent, which was torn back. Smegma removed from behind the glans, and dressed wound with styptic cotton.

July 1, 1875.—Returned in perfect health, and could walk with steady gait. Was bright and cheerful, and, his mother said, was anxious to play with other children, and talked quite freely.

CASE II.—August 20, 1875. Frank R. Gordon, six and one-half years of age; Nunda, Livingston Co., N. Y. Partial paralysis; cannot extend his legs without assistance. His father states that he was constantly stumbling over the smallest objects. Had constant erections and was always handling his privates. Made examination and found prepuce firmly adherent to glans penis. Introduced director and slit prepuce; the adherent portion torn back, found where glans was uncovered a thick roll of sebaceous material behind the corona, which was removed.

Have since heard, by letter of October 10, 1875, that the child was very greatly improved, could stand and walk without stumbling, and extend and flex his limbs without any effort.

DR. SAYRE:

*Dear Sir*—The cases of epilepsy that I reported to you, arising from preputial adhesions, are still free from the disease, not having had a single paroxysm since breaking up the adhesions.

I have seen another case of epilepsy in a boy four years of age, with adhesions of the prepuce to the corona. I separated the adhesions (gave no medicine in the case) six weeks ago, since which time he has not had a single convulsion.

Yours respectfully,

DR. W. R. MCMAHAN.

HUNTINGBURG, DUBOIS CO., IND., April 11, 1876.

CASE III.—April 29, 1875. Charles Edward Burdick, eighteen months of age; 218 West Twenty-eighth Street. Young mother. First child, robust and healthy from birth. Began walking at nine months, but lately has been unable to walk, or even stand, his legs giving way under him. Was always a poor sleeper; never had convulsions.

The mother has noticed the condition of the child's penis for some time, but supposed it was natural until Dr. E. D. Morgan was consulted in regard to a sudden illness of the child, and discovered the abnormally excited penis, and advised her to see Dr. Sayre.

*Present condition.*—Penis unusually developed; prepuce adherent just outside of the meatus urinarius, the urethral orifice being red, patulous, and granular.

The scrotum and inner side of the thigh excoriated, as the mother states, from scratching. Child falls and stumbles in walking around the office.

*Treatment.*—Prepuce torn back with the thumb and finger, exposing a very large glans penis for a boy of his age, and behind the corona an unusual amount of hard, thickened smegma, closely adherent, requiring such force in its removal as to leave a bleeding surface around the glans.

Frænum also torn, followed by hemorrhage, which was checked by styptic cotton. The same evening the parts were œdematous from constriction. Prepuce was then nicked on the anterior surface, and needle-pricks through the integument, to let the serum ooze; otherwise doing well. Dressed with plumbii acet. and water.

May 12, 1875.—Entirely healed; child greatly improved.

June 1, 1875.—Child returned; could cover and uncover glans without constriction. His mother states that he can run and play without falling down, which he formerly could not do.

CASE IV.—March 25, 1875. John Lovatt, aged three and one-half years. Began to walk at nine months; walked very well for three months; his mother then noticed that he was somewhat lame and would fall at every few steps; was very restless at night—always wanted to be in a sitting position.

On examination, found partial paralysis and atrophy of the left leg; would throw foot out at each step. Penis very small; glans had never been uncovered; penis constantly erected.

Phimosis removed by circumcision; mucous membrane torn back.

September 30, 1875.—The child returned very much improved; walks much better, and his mother states that he runs about the house, for the first time in two years, without falling down; also, that his appetite is better, and that he sleeps *lying down* without waking during the whole night, and has done so ever since the operation.]

THE HEALTH OFFICER OF THE PORT OF NEW YORK.—An investigation into the matter of this officer's income shows that it amounts to about $50,000 annually.

# Correspondence.

## AMERICAN ACADEMY OF MEDICINE.

To the Editor of The Medical Record.

Dear Sir: If the membership of the American Academy of Medicine is limited to those possessing the degree of A.B. or A.M., as stated by the secretary, Dr. Dunglison, in your issue of November 5th, is it not somewhat unjust to many of the profession who have taken the scientific instead of the classical course in our colleges, in order to avail themselves of the increased advantages offered in the study of chemistry, toxicology, and other branches more nearly allied to the present science of medicine than the pursuit of the study of the Latin and Greek beyond the elementary stages.

Should not the degree of B.S. (Bachelor of Science), M.S. (Master of Science), or Ph.D., be an equivalent to A.B. or A.M. as a qualification for membership in the American Academy of Medicine?—for they represent college attainments more necessary to success in the profession than either A.B. or A.M. Then, again, if a college confers the degree of A.M. upon a man who has not received it by the regular course of study, does this qualify him for membership in the Academy, if he has previously received the degree of B.S. or M.S. in regular course in a college, where the degrees of A.B. and B.S. represent a similar amount of work?

Very respectfully,

M.S.

To the Editor of the Medical Record.

Dear Sir: I have been much interested in the discussion concerning the American Academy of Medicine, in The Record of October 8th and November 5th. It seems to me that, if there is any reform for which the medical profession is ripe, it is one which shall radically change the present system of medical education; and that, if there is any place for a new association of medical men, it is for one which shall energetically agitate and advocate such a reform. Dr. Dunglison, in his communication of November 5th, states the aims and purposes of the American Academy of Medicine as follows:

*First.*—To bring those who are alumni of classical, scientific, and medical schools into closer relation with each other.

*Second.*—To encourage young men to pursue regular courses of study in classical and scientific institutions before entering upon the study of medicine.

*Third.*—To extend the bounds of medical science; to elevate the profession; to relieve human suffering; and to prevent disease.

The first of these articles of belief, if I may so denominate them, calls for little attention, for its aim seems to be entirely gregarious or social, and might figure quite as aptly among the articles of incorporation of an association of liberally educated men. The third is scarcely more specific or distinctive, for its aims are those for which all medical men should labor.

It is the second article which I desire especially to discuss, for its aim is one which, if properly understood and energetically and wisely carried out, would, in my estimation, be a sufficient reason for existence for any body of men having the honor of the profession and the welfare of humanity at heart.

Does this society, then, fully comprehend the importance of this aim, and is its action likely to elevate the standard of medical education? I think the question must be answered in the negative. For a mere social gathering of medical men, to whom favoring fortune has rendered a classical education possible, a yearly meeting may suffice; but much harder work lies before any association having the cause of medical education really at heart. Nor can I think that, by encouraging young men to pursue courses of study in classical and scientific institutions, preparatory to their medical studies, the cause of medical education can be materially advanced. First, because a very small percentage of those choosing the profession of medicine have the time or means requisite for those studies which are necessary for the procurement of a classical or scientific degree; secondly, and principally, because such a course would not be wise for the great majority of medical students. The very fact, adduced in the above-mentioned communication, that even a smaller percentage of medical men in England take classical or scientific degrees than here, sustains me in this point; for who, familiar with the subject, believes that it would be well to urge young men generally, who desire to enter the medical profession, to spend four years in gaining a literary degree—four years spent mainly in the study of the dead languages and the higher mathematics, and with only the most remote reference to the study of their choice.

I do not wish to be misunderstood, for none more than I can appreciate the advantages of a liberal education for medical men; but art is long and life is short, and at least half of the time spent in acquiring the degree of A.B. in any one of our colleges might be much more profitably spent in the pursuance of those studies which should be preliminary to medicine proper. And just here is the reason why, in England, where classical learning certainly does not lack appreciation, so few medical men take a classical degree. For, while they have not pursued the study of the ancient classics or pure science to the extent which would entitle them to a degree, yet they are *all* familiar, to some extent, with classical and scientific knowledge. There, every student of medicine must pass a preliminary examination equal, in many respects, and superior in some, to that required here for admission to our colleges; and while from the moment he enters upon his studies all points to the goal he desires to reach, still the course marked out is not cramped and narrowed as here, but broad and liberal, so that finally, when he graduates in medicine, he is not only a physician, but a man of truly liberal education. For the few who have time, or those who do not early decide upon their path in life, nothing here presents itself better than our college course; but would you consign to it him who, fortunately, early in life has chosen his career? It is claimed that the study of the classics and mathematics disciplines the mind, and trains to thought and analysis. To a certain extent this is true; but is the field of medical science and those subjects allied to it not large enough to teach exact thought? And may not the student of medicine peruse Hippocrates with more profit than Homer? What we need is a truly liberal *medical* education for medical men. Let it be required of every student of medicine that he have a good English education; that he know something of Latin and Greek, and of natural history;

and above all, he should not receive his degree until he knows enough of medicine to begin its practice, and be aware of the immense field which lies before him, and of his great duties and responsibilities. Much might be said upon this subject, and upon the necessity of a State board independent of the medical colleges; yet I fear to trespass further upon your space, and will only say in closing, that I hope some day to see a society formed of medical men who have the reform in medical education at heart, and who shall be able to accomplish it.

I remain yours faithfully,
S. S. JONES, A.B., M.D.

## CONSULTATIONS WITH HOMŒOPATHS.

### A REPLY TO "ETHICS."

TO THE EDITOR OF THE MEDICAL RECORD.

DEAR SIR: It appears, from what "Ethics" writes in the RECORD, that he desires to take issue with me upon my criticism of Dr. Bristowe's remarks touching consultations with homœopaths; but wishes me to state, as preliminary to the discussion, my definition of the meaning of homœopathy and homœopathic practice, in contradistinction to the doctrines and practice of the regular profession. I had not known before that such a definition was a matter of individual opinion—that the distinctive characteristics of each had been so nearly obliterated as to render a proper definition a matter of doubt. I cannot yet believe that such is the case; therefore I must decline to comply with the wishes of your correspondent in this regard, and must suppose that, if he is competent to discuss the question at all, he understands perfectly the peculiar tenets, a belief in and the practice of which have ever separated the followers of Hahnemann from the regular medical profession; if he does not, I am afraid I cannot enlighten him. I hope this position of mine, however, will not prevent "Ethics" from stating his view of the question concerning which he joins issue with me; though I must certainly insist that he do so over his own signature, for it is unpleasant for me to communicate, either upon paper or orally, with one whose name at least I do not know.

J. B. STAIR, M.D.

SPRING GREEN, WIS., November 8, 1881.

PERCHLORIDE OF IRON.—Casarini advocates this remedy in certain skin affections (*Lo Spallanzani*, 1881), and concludes: 1st, that the perchloride of iron externally is the most efficacious remedy against purpura hemorrhagica and purpura simplex; 2d, that it is very useful in the cachectic chloro-anæmic condition, which often accompany certain affections of the skin, as rupia, ecthyma, impetigo; 3d, externally this remedy exercises a prompt and favorable influence over ulcers dependent upon scrofula and constitutional syphilis; 4th, employed as an ointment, it is an energetic and efficacious modifying agent in desquamating affections of the skin, as psoriasis; 5th, it may be used in the form of lotions with 2–3 parts of water, or as an ointment containing 1–2–3 grm. of the perchloride to 30 of lard.

Casarini has used the remedy in psoriasis in the proportion of 10 grm. to 30 of lard or glycerine, with satisfactory results, especially when glycerine was employed.—*Riv. Clin. di Bologna*, August.

## ARMY NEWS.

*Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from November 6, 1881, to November 12, 1881.*

KING, WILLIAM S., Colonel and Surgeon. The extension of leave of absence on account of sickness, granted him in S. O. 105, May 7, 1881, from A. G. O., still further extended six months on account of sickness. S. O. 251, A. G. O., November 7, 1881.

WRIGHT, J. P., Major and Surgeon. Granted leave of absence for twenty days on surgeon's certificate of disability. S. O. 229, Department of the Missouri, November 8, 1881.

MCCLELLAN, ELY, Major and Surgeon. Now awaiting orders at Louisville, Ky., to report in person to the Commanding General, Department of the East, for assignment to duty. S. O. 252, A. G. O., November 8, 1881.

HARTSUFF, ALBERT, Major and Surgeon. The leave of absence granted him in S. O. 214, October 20, 1881, Department of the Missouri, is extended nine months, with permission to go beyond sea. S. O. 251, A. G. O., November 7, 1881.

MEACHAM, F., Capt. and Asst. Surgeon. To accompany from Fort Trumbull, Conn., to the Military Division of the Pacific, Batteries C and M, First Artillery, ordered to start on 11th inst. Upon completion of this duty to rejoin proper station in Department of the East. S. O. 66, Military Division of the Atlantic, November 8, 1881.

FINLEY, J. A., Capt. and Asst. Surgeon. To accompany from Fort Adams, R. I., to the Military Division of the Pacific, Light Battery K and Batteries B and E, First Artillery, ordered to start on 14th inst. Upon completion of this duty to rejoin proper station in Department of the East. S. O. 66, C. S., Military Division of the Atlantic.

TURRILL, H. S., Capt. and Asst. Surgeon. To accompany Battery H, Third Artillery, from Madison Barracks to New York city, and on arrival report in person at these headquarters for further orders. S. O. 67, Military Division of the Atlantic, November 9, 1881.

CARTER, E. C., First Lieut. and Asst. Surgeon. To accompany from Fort Adams, R. I., to the Military Division of the Pacific, the headquarters, band, Battery F, and detachment Light Battery K, First Artillery, ordered to start on 10th inst. S. O. 66, Military Division of the Atlantic, November 8, 1881.

RAYMOND, H. J., First Lieut. and Asst. Surgeon. To accompany Batteries A and D, First Artillery, from Fort Columbus, N. Y. H., on 10th inst., for San Francisco. S. O. 66, C. S., Military Division of the Atlantic.

VACCINATING FOR SPLENIC FEVER.—The practical application of vaccinating against anthrax has been made very extensively in France. M. Bouley recently announced the inoculation of forty thousand sheep. M. Pasteur states that he has all that he can do to supply the demand for his anthrax vaccine. In the department of Haute-Marne, France, the authorities have decided to test protective inoculations on a large scale. It is interesting to know that cases of supposed anthrax have recently appeared in New Jersey. The State Board of Health have sent specimens of blood to be examined and tested at Dr. T. E. Satterthwaite's laboratory in this city.

# Medical Items and News.

CONTAGIOUS DISEASES — WEEKLY STATEMENT. — **Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending November 12, 1881.**

| Week Ending | Typhus Fever. | Typhoid Fever. | Scarlet Fever. | Cerebro spinal Meningitis. | Measles. | Diphtheria. | Small-pox. | Yellow Fever. |
|---|---|---|---|---|---|---|---|---|
| Nov. 5, 1881. | 0 | 32 | 125 | 3 | 18 | 98 | 16 | 0 |
| Nov. 12, 1881. | 0 | 22 | 125 | 2 | 34 | 75 | 22 | 0 |

THE PROGRESS OF HOMŒOPATHY.—We notice in one of our exchanges that the word Homœopathic has been dropped from the title of the society formerly known as the Homœopathic Society of Northern New York. A step in the right direction.

EXPERIENCES OF A COUNTRY PRACTITIONER.—A writer in the *American Specialist*, in an article on the country doctor, gives some interesting and suggestive experiences. After referring to a visit made at the end of a weary day, to see a wealthy(?) patient six miles away, who had bitten his tongue during a spree, and upon whom he was compelled to make a second visit, only to find his patient absent from home, and received for all his trouble a single fee of one dollar, thus refers to the situation: "I had suffered much inconvenience and had driven twenty-four miles for one dollar. This would not pay for the wear and tear of my carriage. Though an exaggerated, this is not an exceptional, case of the kind. A similar case occurred to me one cold, snowy morning, when I was awakened at half-past five by the word that Mr. So and So, who lived some four miles away, was very sick and wanted me at once. Dressing in a hurry, I drove in great haste, and when I arrived, half frozen, at my destination, I found an indolent ulcer some three or four months old and about the size of my thumb-nail. I had to swallow my indignation as best I could, and wash it down with a cold breakfast. I was aroused one night, at twelve o'clock, with the word that a woman whom I had been engaged to attend was in labor. She lived five miles away. They had neglected to send a wagon for me. My man was away, so I was compelled to open the stable and harness my horse myself. Shortly after I reached the house it commenced to rain. The father of the coming baby took the horse from the wagon and led him to a shed; when passing behind him my horse became frightened and kicked the man on the leg. The pain was so great that he fainted. I was obliged to leave my patient, and going out into the pouring rain, carry the man to the house, and minister to his needs. Just as I had succeeded in restoring him to consciousness, I was hastily called to the next room. I found the child's head engaged in the vulva, and finally, about five o'clock, the child was born, when I had to add the preliminary duties of monthly nurse to those of accoucheur. Then followed a five-mile drive home in the rain, a thorough wetting, and a subsequent cold. During the next week I paid five visits to my patients. These were very well-to-do people, and, after waiting six months, I received ten dollars for my labor, and was generally considered a very *dear doctor* for asking so much. The most liberal patient I ever had lived in Chester (nine miles from my home), whom I used to visit every week, until I became too busy to spare the time. She was wonderfully generous, and paid me two dollars for each visit; two dollars for eighteen miles."

ANNUAL REPORT OF THE SURGEON-GENERAL OF THE ARMY.—The annual report of Surgeon-General Barnes has just been submitted. The cost of medical and surgical supplies during the year was $183,-253 42. He asks for $250,000 for the coming year. Respecting the health of the army, the report shows that among the white troops the total number of cases of all kinds reported on the sick list during the year was 37,408, being at the rate of 1,768 per 1,000 of mean strength. Among the colored troops the total number of cases reported was 4,650, or 1,984 per mean strength. The total number of deaths from all causes among the white troops was 197, or 9 per 1,000 of mean strength, and the total number of deaths of colored soldiers reported from all causes was 48, or 20 per 1,000. Renewed attention is invited to the necessity for a new fire-proof building for the Army Medical Museum and Library. The following extract from President Hayes' message to Congress, in December last, is quoted: "The collections of books, specimens, and records constituting the Army Medical Museum and Library are of national importance. The library now contains about 51,500 volumes and 57,000 pamphlets relating to medicine, surgery, and allied topics. The contents of the Army Medical Museum consist of 22,000 specimens, and are unique in the completeness with which both military surgery and the diseases of armies are illustrated."

STATED MEETING OF THE STATE BOARD OF HEALTH. —NUISANCES NEAR NEW YORK.—The State Board of Health held its quarterly meeting at Albany, on November 9th. The most important report was that concerning the Hunter's Point stenches. The committee described the various measures that were being taken by manufacturers to lessen the nuisances. They concluded with a hopeful announcement of their belief that, by concentrated and united action on the part of the oil-refiners, they are conscientiously endeavoring to comply with the Governor's orders, and the great improvements made in the system of refining petroleum without offence to the people proves emphatically what was stated to the Board by the committee at a former meeting, viz.: that nine-tenths of the effluvium nuisances could be prevented by the proper application of what science has shown to be possible and practicable. The oil-refiners have made an excellent beginning, and the committee are of the opinion that they will continue to exercise the proper precautions, so that nuisances from this branch of industry will practically cease to exist. Do nuisances still exist, notwithstanding the improvement made by the refiners and in spite of the care exercised by them? There still remains the establishment of Edward Clark, who is engaged in the process of separating sulphuric acid from the impure material sludge. But this establishment, as well as that of Coe and others, will be obliged to close. Other industries producing various stenches, such as the bone-boiling and burning and fat-rendering establishments, are now working so that no official complaints concerning them have been transmitted by the Governor to the State Board.

" On the second day the President of the Board, Erastus Brooks, and the President of the Board were appointed a committee to represent the Board at the meeting of the Public Health Association, to be held at Savannah, on November 27th. Action was taken looking to the supply of applications for pure vaccine virus. The use of poisonous adulterations in confectionery was the subject of consideration by the Board. A report by E. Knickling, C.E., on the malarial nuisance along the abandoned Genesee Valley Canal, was submitted and ordered embodied in the annual report. Various petitions for aid in removing local nuisances were appropriately referred.

THE GARFIELD HOSPITAL SCHEME.—Mr. A. S. Solomons, Chairman of the Committee of Ways and Means of the National Garfield Memorial Hospital, has received the following letter from Mrs. Garfield:

MENTOR, O., October 31, 1881.

MR. A. S. SOLOMONS:

*Dear Sir*—Your letter of October 22d, giving an account of the action of the Memorial Hospital Committee, was duly received. I regard the project as a grand tribute to the memory of General Garfield, and one which would be to him most gratifying. The high character of those engaged in it is the best assurance of its accomplishment in the most worthy manner. It will be my pleasure to contribute to this object.

Very truly yours,

LUCRETIA R. GARFIELD.

THE NEW YORK MEDICO-LEGAL SOCIETY held a stated meeting on November 2, 1881. The paper of the evening was read by Dr. T. D. Crothers, of Hartford, Conn., and was entitled "The Trance State following Inebriety, and its Medico-Legal Relations." The paper is published in the present issue of the MEDICAL RECORD.

In the discussion which followed, the President asked whether tea-drinking in women could not produce the similar conditions of trance or a morbid nervous state allied to inebriety.

Dr. G. M. Beard said that there was plenty of room for difference of opinion as to what the trance conditions described by Dr. Crothers really were, and how they should be named. But he thought all could agree that there really were such conditions. The novelty in Dr. Crothers' paper lay in the fact that he assigned inebriety as the cause.

The speaker referred to a discussion in the Mental Section of the International Medical Congress, in which this subject was touched upon.

Dr. Beard had studied the class of classes described by Dr. Crothers, and he could not discover in them any relation to epilepsy.

Dr. E. C. Spitzka thought that there was absolutely nothing new in the paper of Dr. Crothers, and that it was not on a level with the science of the day.

The reasons for this view were given briefly and forcibly.

Brief remarks were made by other members.

A vote of thanks was tendered to Dr. Crothers for his paper.

THE SECOND ANNUAL INTERNATIONAL ANTIVACCINATION CONGRESS finished a four days' session at Cologne, on October 24th. Forty-five delegates attended. The following epitome of the views of the association, as set forth by a Dr. C. Pigeon, of France, will be read with interest on account of the extraordinary audacity of the propositions:

1. Small-pox, when rationally treated, is not relatively a dangerous disease. 2. Vaccination does not afford immunity against it, but, on the contrary (being itself an infusion of zymotic molecules), is an excitant of it. 3. Vaccination not unfrequently inoculates syphilis and other maladies much more dangerous than small-pox, as the virus is never free from the risk of such contaminations. The official returns of burgomasters in the cities of Liegnitz, Lubeck, Dusseldorf, Cologne, and other places, demonstrated the constant priority to attacks of small-pox of the vaccinated over the unvaccinated—a fact admitted to be true of infants by Dr. Thilenius, the leader of the provaccinators in the German Imperial Parliament.

Among other proposals approved by the congress was the petitioning of the various legislatures to make vaccinators responsible for the evil consequences attending the operation, which, it was believed, would at no distant day cause the practice to be abandoned.

The next congress is to meet at Berlin in 1882, during the sittings of the Reichstag.

BOGUS VETERINARY MEDICAL DEGREES.—The *Journal of Comparative Medicine* gives an account that is not without its humorous side, of various attempts to buy bogus veterinary degrees of the Columbia Veterinary College in this city. It appears that, immediately after the organization of that college, some four or five years ago, inquiries regarding the price of a diploma began to come in. The demand continued quite steadily, for the first few years, at the rate of one or two a month. Not meeting encouragement, it has of late fallen off. The amount offered for the diplomas varied, we are informed, from a shake of the hand to five hundred dollars.

We reproduce two of the letters, which represent very clearly the two prominent types of men who buy or want to buy diplomas, veterinary or medical. The first is from a Western man, of the class who "mean business," and to whom all the other considerations of life are a miserable and unhealthy efflorescence. He writes:

"Desire a diploma, but cannot spend time necessary to get one. Will give just one hundred and fifty dollars for the same—if we can deal; if not, all right. Anything you may say upon the subject will be strictly between us. Sincerely, etc.

"P. S.—You need not take the trouble to send me a lecture upon the immorality of my propositon; it would be wasted Am a Western man, and will do just as I agree, quietly, as it will be of service to me and cost you nothing."

The second letter is from a more callow specimen. The author would be much obliged if he could get a diploma for nothing. The epistle is a triumph of *naïveté* and phonetic spelling. Indeed, on the latter account alone it deserves an imperishable fame. It goes as follows:

"DER SIR: . . . . I want you to do me a faver if you Can posable & I will Reward you Sure when I come to the College I have Study vet Book for A long time & done good deal of doctern & had good Results in all my practis But when I go to Collect my Bills grate meny of our people will Say you haven not got no diploma & I wont pay you tel you git one So if you Can assit eny way pleas do it if you Can send me A diaploma by express Cod then I Can Collect wat is due to me & will Beable to Come to See you and give you a harty Shake hands I am poore & ned assistence I am young only 28

year old if this wont do Could I be examin by letter & git one pleas give me the best information you Can in Regard to it pleas answer Soon I want to do all I Can So I Can Come out to new york nex fall I think I Can bring one or to more Students when I Come. Yours truly."

The journal from which we quote remarks that, with such a general belief that veterinary degrees can be bought, it seems probable they are sold somewhere. It is proposed to investigate the matter further.

THE SAD END OF A BRILLIANT AND ACCOMPLISHED PHYSICIAN.—Dr. Adolph Goertz, a physician and an accomplished scholar, was found dead, November 6th, in the hallway of his residence, No. 23 Second Avenue. He was a native of St. Petersburg, where his father holds a high official position under the Russian Government. He received a fine education, and was graduated from the Imperial University in St. Petersburg with high honors. Choosing the medical profession for his sphere of duty, he was sent by the Government to finish his studies in the medical colleges in Berlin and Paris. He served in the Franco-Prussian war, and then entered the Russian service, where he reached a high position. He was obliged to resign, however, on account of his too liberal views. He came to this city about two years ago. He met with little or no success here, and finally became dissipated and was reduced to poverty. A number of German physicians, who admired his brilliant intellect and attainments, and pitied his forlorn condition, endeavored to help him, but without avail. They paid his rent for several months, gave him clothes, that he might make a respectable appearance, and loaned him surgical instruments to use in his practice. He pawned the clothes and instruments, and spent the money for drink. Within the few days previous to his death, Dr. Goertz seemed more cheerful than usual, and told his landlady that his prospects were becoming brighter, and that he would soon be in good circumstances. He had written a number of articles on cremation for a German newspaper, and had also written for the MEDICAL RECORD, and this occupation, he believed, would give him a living. It is believed that he committed suicide; but he was addicted to the use of hydrate of chloral, and he may have only taken an overdose. His father is very wealthy, but the son was too proud to apply to his family for assistance. He was an accomplished linguist, and spoke Russian, German, French, Italian, Spanish, and Japanese fluently.

DR. WILLIAM J. BLAND, of Weston, W. Va., has been appointed Superintendent of the West Virginia Insane Asylum, in place of Dr. Thomas B. Camden, who succeeded Dr. Hills, the first superintendent of the hospital, ten years ago.

THE FIFTY-FOURTH ANNUAL MEETING OF THE SOCIETY OF GERMAN NATURALISTS AND PHYSICIANS was held at Salzburg during the week beginning September 19, 1881. The meeting is said to have been a successful one, though not made notable by any great addresses or discussions.

In the Section on Pathological Anatomy, H. Chiari read a paper on "Atheroma;" Professor Klebs, a paper on "The Structure and Relations of the Blood-vessels of the Placenta, with Special Reference to the Pathological Changes in that Organ;" Professor Ziegler, of Zurich, a paper on "Several Cases of Epidemic Dysentery and the Relations of the Disease to Micrococci." Dr. Friedländer, of Berlin, presented some interesting statistics regarding hypertrophy of the heart in its relations to glomerulo-nephritis in children.

We give the tabulated statistics:

WEIGHT OF THE HEART IN CHILDREN WHO HAVE DIED FROM VARIOUS DISEASES. (The upper row of figures represents the age of the childen, the lower columns the weight of the heart in grammes.)

| 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 11. | 12. | 14. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 52 | 50 | 70 | 30 | 70 | 52 | 80 | 106 | 98 | 119 | 130 | 173 |
| 26 | 60 | 54 | 65 | 60 | 92 | 81 | | 115 | | 152 | 170 |
| 37 | 45 | 53 | 79 | 77 | 85 | 102 | | | | | |
| 53 | 61 | 67 | 70 | 89 | 65 | 72 | | | | | |
| 37 | 68 | 54 | 55 | 82 | 90 | | | | | | |
| | 71 | 50 | 84 | 69 | 78 | | | | | | |
| | 42 | 52 | 74 | 81 | 65 | | | | | | |
| | 68 | 18 | | 59 | | | | | | | |
| | | 55 | | 95 | | | | | | | |
| | | 54 | | | | | | | | | |

WEIGHT OF THE HEART IN CHILDREN WHO DIED FROM GLOMERULO-NEPHRITIS:

| 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. | 11. | 13. | 14. | 20. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 110 | 89 | 100 | (85) | 155 | 130 | 124 | 130 | 150 | 210 | 195 | 220 | 310 |
| (50) | | 100 | 136 | (75) | 136 | 160 | | | | | | 320 |
| | | 101 | 110 | 112 | | 159 | | | | | | (520)† |
| | | 155 | | | | 130* | | | | | | |

* Complicated with endocarditis.
† A case of glomerulo-nephritis of six weeks' standing.

A communication was made by Dr. Lösch, of St. Petersburg, upon the changes produced by chemical and thermal irritants to the mucous membrane of the stomach. The point made was that in the process of digestion the gland-cells go through changes very analogous to those seen in the earlier stages of an inflammation. It is inferred that the irritation of the nerves has something to do with initiating the cell-changes in inflammation as in secretion.

Dr. Aberle, of Salzburg, showed the skull of Paracelsus to the members of the section, and made some remarks concerning the history of that man.

Various microscopical preparations were shown.

In the Section for Internal Medicine and Skin Diseases, Dr. Lytten reported two unique cases of mycosis of the kidneys. The first patient was a servant-girl, who, when first seen, had apparently only a slight gastric catarrh. She was taken with a chill, followed by fever and slight jaundice. Then suppression of urine, œdema, and uræmia, with coma, convulsions, and death following, the latter occurring on the seventh day after the chill. Autopsy disclosed no special lesion, except in the kidneys. The tubules of these organs were choked and distended with micrococci, the condition being like that sometimes found in diphtheria or puerperal fever. A second and similar case was related. The cause of the development of the organisms was not known.

Dr. Strümpell, of Leipzig, read a paper on "Locomotor Ataxia," basing his remarks upon autopsical examinations of the cord in ten typical cases. His conclusions, from a study of the progress of the morbid changes in the cord, were that the disease was not a local one of the cord, but was a constitutional affection. This view aroused an extended discussion.

In the Section for Diseases of Children there was an extended debate on the subject of the proper

food for infants. The different kinds of milks, and of artificial infant foods were discussed, but nothing especially new was brought out.

In the Section on Gynecology, Prof. Kaltenbach, of Freiburg, advocated the extirpation of the fetal sac in extra-uterine tubular pregnancy. He thought that in this way danger of hemorrhage from the placenta was largely avoided.

Prof. Schroeder, of Berlin, made a communication upon the subject of the treatment of the pedicle in removing uterine fibroids. He advocated the plan of leaving the pedicle in, the operation being performed antiseptically. A discussion followed, in which Kaltenbach opposed and Baude supported Schroeder's view.

In the Section on State Medicine, the subjects of drinking-water, ground, air in dwellings, and the influence of soils upon the decomposition of organic substances, were taken up.

Absence of One Kidney.—Dr. J. Colburn Clement, of Haverhill, Mass., reports the following: "On September 24th, a young Irishman, J. K——, twenty-one years of age, was shot during a drunken row, and died on the 26th inst. An autopsy was made on the same day, under the direction of Medical Examiner Cogswell, and revealed the following anatomical peculiarity:

"On the right side the kidney was found in its normal position. I regret that the exact measurements were not made; however, it was fully one-third larger than ordinarily, and, in every respect, of normal appearance. On the left side we could find neither kidney nor anything resembling an attempted formation of that organ. The bladder was normal, and the right ureter intact, but on the left it was missing, there being only a small pit, or depression, corresponding to the opening in the right, and, leading from this, for about half an inch, was what appeared like a piece of cat-gut imbedded in the mucous membrane. This was, evidently, the remains of an attempted formation of the left ureter.

"The young man had been in America only a few months, and was hard at work as a coal-heaver. His employer speaks of him as the strongest man he had, and all who knew him considered him to be remarkably robust in his general health."

Notes on Vaccination, Based on the Results of Thirteen Hundred Cases.—Dr. P. G. Higgins, of Scranton, Pa., sends us some instructive notes regarding vaccination. Last winter, fearing a visitation of small-pox, all the school children of Scranton, to the number of seven thousand, were vaccinated. The result was most gratifying, for, though seven surrounding cities had cases of small-pox, in Scranton none occurred whatever.

In the vaccinations performed by Dr. Higgins, bovine virus was used, and crusts were considered the most economical and reliable form. Properly prepared, a medium-sized crust will suffice for two hundred vaccinations.

The lancet is considered a most objectionable instrument, especially for children.

"An excellent substitute for a vaccinator," he says, "and in fact a superior instrument, may be made by thrusting four or five coarse needles through a cork till the points are on a line, close together, say half an inch or so beyond the opposite side. This improvised instrument has the additional advantage of being equally available for scar and puncture, a combination which makes the neatest and most reliable operation."

"One hundred and twenty vaccinations in an hour may be performed with such an instrument. Three or four trials should be made in primary cases, supposing the vaccine does not act at first. In secondary cases, two trials are enough.

"For the malaise and fever of vaccinia, carbonate or sulphate of magnesia is of much service. Secondary vaccinations are generally milder in every way than the first."

In the thirteen hundred vaccinations, no death occurred, and not a single case of erysipelas. Four hundred of the number were primary, among which were four cases of vaccinia—one being quite severe. Twenty were quite slow in healing, three of which gave considerable trouble. Of the nine hundred not primary, five hundred were secondary, of which number two hundred were successful upon the first attempt, and about one hundred upon revaccination. In the remaining cases vaccination had been successfully performed twice, or oftener, and of these all but twenty-five failed. A much larger number were followed by simple inflammatory sores that ran a short course and healed up in a few days; but no case was considered successful without the characteristic zone of redness surrounding the crust, and fading out imperceptibly.

A Case of Peritonitis Caused by Rupture of Gall-Bladder.—Large Gall-Stone Impacted in Neck of Gall-Bladder.—Drs. McCauley and Leech, of Apollo, Pa., send us a report of the following case:

Mrs. K——, aged sixty years, mother of ten children, was taken suddenly ill August 9, 1881. She complained of severe pain in the right side, with nausea and slight vomiting. On inquiry, it was learned that for several days previous there had been soreness in that side, but it did not interfere with her following her usual household duties. Examination showed a small tumor, which could be distinctly felt, about two and one-half inches below the free margin of the ribs, and about three inches to the right of the median line. Bowels were constipated and slightly tympanitic. Pulse 125; respiration, 25; temperature, 102. Ordered opium, gr. j., every two hours, with hot fomentations over abdomen.

The tumor increased in size, the other symptoms continuing for two days. It then suddenly disappeared. The patient soon after had two very dark-colored passages, and, following these, dysenteric passages. The symptoms of peritonitis and intestinal irritation continued for a week. On August 18th the patient died.

Autopsy, three hours afterward, showed peritonitis pretty generally diffused over the right side of the abdomen, and as far to the left as the median line. There was about one and one-half ounce of clotted blood in the peritoneal cavity, near the cæcum. An enlarged gall-bladder extended down along, and adhered to the ascending colon, with fistular communication with gall-bladder entering the colon about one and one-half inch below the flexure. A small quantity of pus had found its way through the imperfect adhesion into the peritoneal cavity from the fistular opening. A gall-stone, one and one-half inch in length and about one and one-fourth inch in diameter, was found impacted in the neck of the gall-bladder, completely shutting off the passage of gall through the duct. The liver otherwise seemed normal.

The interesting features of this case are:

*First.*—The patient did not at any time during her illness complain of pain in the region of the liver.

*Second.*—The rupture of the gall-bladder by obstructed gall, and no jaundice that could be detected at any time by the closest observation.

*Third.*—The patient had better health for two or three years previous to her last illness than for many years before.

CIRSOID ANEURISM SITUATED IN THE OCCIPITAL, PARIETAL, AND MASTOID REGIONS.—Dr. Perez reports a case of cirsoid aneurism occurring in a woman, forty-six years of age, of good constitution, and without hereditary or personal history to explain the lesion. In the left occipito-temporo-parietal region, three or four flexuous and strongly pulsating arteries were observed, corresponding to the capillary ramifications of the posterior branches of the auricular, and of the branches of anastomoses between the occipital, its fellow of the opposite side, and the more anterior vessels. The largest branch followed the course of the trunk of the occipital, attaining its greatest diameter (two centimetres) above the insertion of the splenius muscle. Compression of the two arteries named diminished, but did not arrest pulsation in the tumor, and compression of the left common carotid produced the same result; pressure applied to both the common carotids, the auricular and occipital on the left side, and the anastomotic branches of the latter two with the vessels of the opposite side greatly enfeebled, but did not arrest, the pulsation. The bones upon which the tortuous arteries rested had been deeply furrowed; these furrows were readily recognizable by the touch. Cirsoid aneurism was diagnosticated. By its numerous anastomoses it formed an aneurismal plexus, probably with numerous communications with the intercranial vessels. In view of the dangers of surgical interference, treatment was limited to compression, and the family instructed what measures to adopt in case of rupture of these vessels.—*Rev. de Ciencias. Med. de Cat.*

HYGIENIC VALUE OF MIRTH.—In the *Popular Science Monthly* for August, 1881, Dr. Oswald speaks on this subject as follows: "Mirth has a hygienic value that can hardly be overrated while our social life remains what the slavery of vices and dogmas has made it. Joy has been called the sunshine of the heart, yet the same sun that calls forth the flowers of a plant is also needed to expand its leaves and ripen its fruit; and without the stimulus of exhilarating pastimes, perfect bodily health is as impossible as moral and mental vigor. And, as sure as a succession of uniform crops will exhaust the best soil, the daily repetition of a monotonous occupation will wear out the best man. Body and mind require an occasional change of employment, or else a liberal supply of fertilizing recreations, and this requirement is a factor whose omission often foils the arithmetic of our political economists.

"To the creatures of the wilderness affliction comes generally in the forms of impending danger—famine or persistent persecution, and under such circumstances the modifications of the vital process seem to operate against its long continuance. Well-wishing Nature sees her purpose defeated, and the vital energy flags—the sap of life runs to seed. On the same principle an existence of joyless drudgery seems to drain the springs of health, even at an age when they can draw upon the largest inner resources; hope, too often baffled, at last withdraws her aid; the tongue may be attuned to canting hymns of consolation, but the heart cannot be deceived, and with its sinking pulse the strength of life ebbs away. Nine-tenths of our city children are literally starving for lack of recreation; not the means of life, but its object, civilization has defrauded them of; they feel a want which bread can only aggravate, for only hunger helps them to forget the misery of *ennui*. Their pallor is the sallow hue of a cellar-plant; they would be healthier if they were happier. I would undertake to cure a sickly child with fun and rye-bread sooner than with tidbits and tedium."

PARSLEY FOR SUPPRESSING THE SECRETION OF MILK.—Mr. Martin claims (*Bulletin Général de Thérap.*, August, 1881) that, if the breasts of a nursing woman be covered with parsley-leaves freshly pulled, the application being renewed several times a day, as quickly as the leaves fade, the milk will cease to appear. This is an application which may be used when it is impossible to give purgatives or other remedies internally.

LOCAL MERCURIAL FUMIGATION.—This subject has lately received considerable attention in England. In the *Archives of Dermatology*, July, 1881, the following succinct account of it appears: Dr. F. H. Kane (*Dublin Journal of Medical Science*, November, 1874,) described and figured a simple apparatus by which the vapor of sublimed calomel could be readily, and with precision, directed on any desired region, such as the nose, mouth, pharynx, or skin. In 1872 (*British Medical Journal*) Surgeon Moffitt described a very similar apparatus, and renewed attention was directed to the subject by a correspondence in the same publication in 1880 (vol. ii.). Moffitt volatilized from three to five grains of calomel, and directed it by means of a stream of air, as in the spray-producers. Quite recently, Dr. Walter G. Smith read a paper on the results obtained by him since the publication of Kane's paper. He has used it frequently, and claims for it exceptionally gratifying and rapid curative results in similar cases to those in which iodoform is applicable; that it is painless even when directed on most sensitive surfaces; that it is easy of application, and capable of precision in use, and that it does not salivate.

THE CEREBRAL SYMPTOMS IN DYSPEPSIA.—In the *Progrès Médical* of May 28, 1881, M. Leven has collected a hundred cases tending to show the occurrence of cerebral phenomena in dyspepsia, the presence of which has hitherto been either little heeded or quite overlooked. Thus, he has seen patients suddenly struck down in the street with true apopletic attacks which last from ten minutes to a quarter of an hour. Such cases were believed to be epileptic, but M. Leven suggests that they were in reality simply dyspeptic, since the cerebral symptoms entirely disappeared when the digestive troubles had been cured. In dyspepsia the intelligence is unaffected, and there is never any mental disorder. Certain cerebral faculties may be altered, but the *ego* remains intact. This affection of the higher faculties, this weakening of the will, of action, of memory, and of the power of speech, may be readily observed. In some cases the patients are unable to determine upon an act, and they have to make a decided effort to perform what is generally an almost instinctive movement, as, for instance, to pick up anything that they have just dropped. In such cases the memory is impaired and speech is difficult, more especially after meals. The patients are melancholy, and suffer from cutaneous hyperæsthesia, a point which distinguishes them from the hysterical.

# Original Communications.

## POSITION OF THE EMBRYO IN THE FOWL'S EGG.

By JOHN C. DALTON, M.D.,

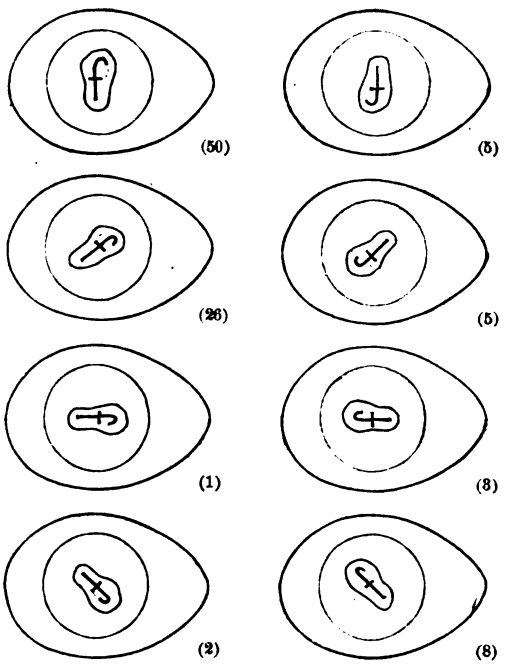
NEW YORK.

There is a singular difference in the statements of embryologists as to the normal position of the chick-embryo in the fowl's egg at the time of its first appearance and in the earlier days of incubation. It is agreed by all that it lies transversely—that is, with its long axis at right angles to the long axis of the egg. The discrepancy is in regard to the position of its right and left sides, as directed toward the round or pointed ends of the egg. According to Foster and Balfour,* "if the egg be placed with its broad end to the right hand of the observer, the head of the embryo will, in nearly all cases, be found pointing away from him." That is, the embryo lying upon the yolk with its abdominal surface downward, its right side is toward the round end of the egg and its left side toward the pointed end.

On the other hand, in the recent admirable work of Kölliker,† the relation of the embryo to the egg is described as exactly the reverse, namely, with its left side toward the round end and its right side toward the pointed end; and the text is illustrated, on pages 64 and 91, with a diagrammatic woodcut, borrowed from Von Baër, showing the embryo in this position. It is difficult to explain such a contradiction between observers of almost equal repute.

During the last summer I opened one hundred fowls' eggs, from the first to the third day of incubation. Of these, in four instances the embryo was longitudinal in position, with its head once toward the pointed end of the egg, and three times toward the round end; in twelve, it approximated the position described by Foster and Balfour, namely, with its right side toward the round end and its left side toward the pointed end of the egg; while in the remaining eighty-four its right side was toward the pointed end and its left side toward the round end. But, among the last-mentioned cases there were only fifty in which its position was exactly transverse in regard to the egg. In thirty-four it was more or less oblique; the head being inclined in twenty-six cases toward the pointed end, and in eight cases toward the round end. In the twelve cases, furthermore, where the embryo lay with its two sides in the position described by Foster and Balfour, it was exactly transverse in only five, being more or less oblique in the other seven. Taking the whole series together, the percentage of cases in which the embryo presented itself in these different positions was as illustrated on opposite column.

The position assigned to the embryo by Kölliker is, therefore, correct for the large majority of cases (eighty-four per cent.); except that it is not so rigidly transverse as might sometimes be inferred from the language of the books, but presents an occasional obliquity, most frequently toward the right. An increased deviation in this direction may shift the position of the embryo, in different cases, around the entire circle. But, notwithstanding this variation with respect to the exterior form of the egg, the relation of the embryo to the yolk and the embryonic spot is not necessarily altered. As the globular yolk is already fecundated at the time of its exit from the ovisac, and receives its envelopes of albumen and egg-shell afterward, the various positions of the embryo in the egg may be due to the manner in which the yolk is received into and transported through the oviduct. The egg receives its




ovoid form in the oviduct, from the unequal deposit of albumen in front and rear of the advancing yolk; and the segmentation of the cicatricula (the first step in the formation of the embryo) goes on within the oviduct, and is nearly or quite complete in the new-laid egg. The position of the embryo on the surface of the yolk is determined by the mode in which segmentation takes place in the cicatricula; and this is very possibly the same in all cases. But the yolk may vary its position in the fully formed egg, according to the way in which it entered the oviduct and there received its albuminous envelopes. Consequently, the embryo may vary from its usual position with regard to the two ends of the egg, without any change in its relation to the yolk or the cicatricula.

* Elements of Embryology, p. 46. London, 1874.

† Embryologie, ou Traité complet du Développement de l'Homme et des Animaux Supérieurs, p. 81. Paris, 1879.

Successful Treatment of Diabetes Insipidus with Valerianate of Zinc and Tincture of Valerian.—Dr. R. Prior, of Brux, relates a case (*Lancet*) in which a patient suffering from diabetes insipidus was successfully treated with the above remedies. The patient, a man aged sixty-eight, was passing ten pints of water daily, and suffering from the usual accompanying disturbances. He was put upon valerianate of zinc, gr. ii., t.i.d., and tincture valerian co., ℥ jss., t.i.d. This gradually increased to gr. xii., t.i.d., of valerianate, and ℥ ii., t.i.d., of simple tincture. In the course of two months the bad symptoms had entirely disappeared, and six months later he was still well.

# CLINICAL OBSERVATIONS ON THE VALUE AND SAFETY OF ADMINISTERING LARGE DOSES OF THE IODIDE OF POTASSIUM IN THE LATE LESIONS OF SYPHILIS.

By M. H. HENRY, M.A., M.D.,

LATE SURGEON-IN-CHIEF OF THE STATE EMIGRANT HOSPITALS, NEW YORK, ETC.

In a recent discussion* on the value of the iodide of potassium in the treatment of syphilis, it was stated by one of those present—one who claims to speak knowingly on the subject—that sixty grains, divided into three or four doses, daily will do all we wish. This statement was challenged by a number of excellent practitioners present, whose experience led them to far different conclusions. I am induced to publish my own views, in a terse way, on this subject, because my experience has been exceptionally large for more than twenty years past, and, still more so, because I am enabled to give the results of some clinical observations of a practical character, unequalled by anything that I know of recorded in the works of therapeutists and syphilographers. The value of any medical article depends, in my judgment, on the quality of the cases and the integrity and brevity with which they are stated. Let me cite one extreme typical case, in which small doses of the iodide of potassium were utterly useless, and where extremely large doses effected an extraordinary cure, and where, in spite of the fears of some distinguished physicians (ten years having elapsed) there has been no injury to the kidneys or any other organs. The full history of this case was published† in January, 1872. My experience had then led me to administer large doses as the only means of arresting and absorbing gummy deposits, and in allaying the extreme symptoms of the later lesions of syphilis. The result is the best and most accurate testimony in support of my conclusions.

Case.—Mr. ——, gentleman, twenty-five years of age, had, when in good condition, contracted syphilis in May, 1868. He consulted a surgeon of this city, who gave him small doses of mercury for a short time, treated the case lightly, and assured him he would have no further trouble with it. In the following August he had a severe fistular syphilide and sore throat. At this time I was consulted. Under a mercurial course of treatment, and local applications to the throat, he soon improved, and the eruption disappeared. He spent the winter of 1868-69 in Texas, and enjoyed excellent health. In December, 1869, he sailed for Cuba; remained on the island until May, 1870, when he sailed for Southampton. In all his letters to his friends he stated that he was enjoying perfect health. On leaving the ship at Southampton, he, with difficulty, found his way to a relative's house in London. Here he was attended by Dr. Edward Meryon, a distinguished English practitioner, assisted by Dr. George Burrows in consultation. He sailed for New York on the 27th of July, 1870. He was under the care of these physicians from June 8th until the day he sailed. From the history furnished by Dr. Meryon, he reached London in a state of "mental incoherence," and "was suffering from congestion of the brain and a generally disturbed circulation." He soon "fell into a state of restless stupor, with a hot skin, quick, weak pulse, injected conjunctiva, widely dilated pupils, not readily answering to light, and he was very deaf." The physicians had no knowledge of his having had syphilis. Dr. Burrows concluded he had suffered from a sunstroke on the voyage from Cuba. Hearing accidentally of his condition in London, I furnished a relative with a history of his case. From June 6th to July 7th he was treated with calomel purges, mustard poultices, and blisters applied to the nape of the neck, morphia or hydrate of chloral at bedtime, and the syrup of the hypophosphite of iron and liquor strychnia three times a day. During all this time the mind remained in about the same state. Dr. Burrows declared on June 30th that an extensive part of the brain must be disorganized. On receipt of the information I furnished, it was decided to administer small doses of the iodide of potassium, but there was no marked alleviation of the symptoms.

Dr. Meryon writes: "From all that I have been able to observe, and from the persistence of the mental phenomena, I have arrived at the conclusion that there is structural change in the cerebral substance round about the optic thalami, extending toward the surface of the cerebrum, and close upon the tractus opticus, for every now and then the sight is obviously affected. Were there disease more in front, and implicating the corpora striata, motion would doubtless be affected. If in the cerebellum, either there would be loss of co-ordination of muscular motion, or some disturbance of the genital organs, or sickness, of which none exist. If about the crura cerebri, the muscles of the eyes would be affected; if in or about the pons Varolii, some facial disturbance would present itself; and if in the medulla oblongata, some affection of speech, deglutition, or respiration."

On his return home he began to fail badly. Dr. D. Tilden Brown was consulted, and advised that he be placed under my care.

On September 4th I first saw him after his return from Europe. Although I had known him very well indeed, he did not recognize me. In response to my questions, he answered incoherently and foreign to my interrogations. He seemed to have lost his mind entirely. He stood up with great difficulty, and as he attempted to walk his knees gave way and he swayed from one side to the other. He showed a fear of falling, and only maintained the erect posture with a great effort. As he stepped forward he was unable to lift his feet—he dragged them along. He was as stout as when I saw him last, but his flesh was "flabby." There was paralysis of the whole of the right side of the face, with considerable distortion. The right cheek bulged out, and the mouth was constantly open; the tongue turned to the right and hung forward. There was mydriasis of both eyes. The left pupil responded to the influence of light; the right did not in the slightest degree. There was paralysis of right oculo-motoris nerve, with complete ptosis of the right eyelid. His appetite was bad, and deglutition very imperfect. He retained food in his mouth for hours; although unable to swallow, it did not occur to him to remove it from his mouth. His sight was very bad—he could not read or even tell the letters of large print. His whole look and manner gave the impression that he had entirely lost his mind, in fact was suffering from all the symptoms and many indescribable features that are known to syphilographers in the term *l'hébétude*. He was at this time in the habit of passing his fæces and voiding his urine involuntarily. I ordered a generous diet, a little wine, and thirty grains of

* New York Academy of Medicine, October 20, 1881.
† American Journal of Syphilography and Dermatology.

the iodide of potassium to be given three times during the day, and thirty grains of the bromide of potassium to be given at bedtime. I also insisted on the necessity of the greatest care of his person and general wants.

On September 6th there was not the slightest change in his condition. Increased the amount of potassium to four thirty-grain doses daily. Continued the bromide at night.

September 7th.—There seemed to be a little less paralysis of the face and less fall of the right eyelid. His speech and articulation was a little better.

September 8th.—Was a little better; still voiding his urine involuntarily. On examination found it 1023; no albumen.

September 9th.—Dr. W. H. Van Buren saw the case with me. The iodide of potassium was increased to five doses daily. His appetite improved, and he slept much better.

September 11th.—The only noticeable change was that he was a little more cheerful. Since he slept well I discontinued the bromide of potassium at night, and added another dose of the iodide—making one hundred and eighty grains of the potassium daily, in six doses.

September 12th.—He complained of a little difficulty in digesting his food. Ordered five grains of pepsine and five grains of bismuth before each meal.

September 13th.—Much better in general appearance. Face decidedly improved. Eats well and sleeps well. Digestion much better.

September 14th.—Still improving. Answered questions more intelligently; conversed in the morning with comparative ease. Has no control over the bladder. Sleeps well and eats well. No ill effects of any kind from the use of the iodide of potassium. Increased the amount to seven doses, making two hundred and fifty grains daily.

September 17th.—Facial paralysis much less. Less deformity about the mouth. Improved in intelligence. General condition much better. Ordered the medicine to be taken every two hours—taking two hundred and fifty grains of the iodide daily.

September 20th.—Sits up all day. Has no control over the bladder. In general apearance is much improved. Answered questions more intelligently than he had done for some months. Taking two hundred and eighty grains of the iodide of potassium daily.

September 21st.—Went out for a ride. Treatment continued.

September 26th.—Very much improved, mentally and physically. Rides out every day. Walks better. Can read slowly. Mydriasis of left eye entirely disappeared. Right eye a little better. Treatment continued. Examination of urine showed slight deposit of crystals of oxalate of lime. Spec. grav. 1030.

October 3d.—There being little or no improvement during the last three days, and as he showed great tolerance of the iodide, I increased it so that he is taking three hundred grains daily. From this time until October 19th he was gradually improving. Walks out every day. Eats well and sleeps well. Reads better, and sits up in the evening and plays cards, such as whist and cribbage, well. Has control over his bladder, and shows a great improvement in his general intelligence. His sight being very much impaired (October 19th), my friend, Dr. H. D. Noyes, was kind enough to see him with me, and the following is the result of his examination:

"There is divergent strabismus, but the attempt to investigate the condition of the muscles with any care is impossible, on account of the great amblyopia and the clouded state of his mind. He answers questions very slowly, and his apprehension is extremely limited. His face is pale and has a vacant expression.

"The right pupil is slightly dilated, but contracts when the eyes attempt to converge. The left pupil normal.

"Vision in each eye $\frac{2.0}{200}$. Reads Snellen 5 at eight inches. Visual fields could not be defined. Color perception not tested.

"By ophthalmoscope, right eye: media clear, emmetropia; optic nerve unnaturally white, border sharply defined, and heavily marked with pigment; its tissue opaque; its surface not elevated; the veins large, arteries of usual size; deficiency of small vessels.

"The retina exhibits a glistening, clouded infiltration, which makes it appear like watered silk. The exudation occupies the depth of the membrane, and extends over all the central portions of eye-ground. There are no apoplexies nor spots of exudation.

"In the left eye the media are clear and refraction emmetropic. The optic nerve is congested, looks as much too red as the other optic nerve too white. Arteries and veins are of the usual size and appearance; the retina hazy and infiltrated as in the other eye.

"The lesion in this case is evidently neuroretinitis, and the appearances favor the presumption of a process coming down from the brain by continuity of tissue, not the occurrence of strangulation of the head of the optic nerves from pressure on the return circulation. The absence of decided elevation, and the sharp limitation of the right optic disk, are arguments for this opinion. In the right nerve the acute inflammatory stage had passed, and there remain the connective tissue and atrophic degeneration of nerve-fibres. This would imply that the left eye was attacked after the right, or may have been more severely inflamed, because in it the symptoms of hyperæmia are decided. The lesions seen by the ophthalmoscope stand in full accord with the other symptoms, indicating serious brain trouble."

October 24th.—Sight very much improved. Can read the large print of newspapers tolerably well. Walks much better, and, when standing, is much steadier in his knees; related plainly and without hesitancy what he had done the day before. Still suffers from incontinence of urine.

October 28th.—Improving daily. Looks decidedly better. General perceptive qualities much more acute. Can walk half a mile without fatigue. Memory much better. Converses rationally on ordinary topics. Realizes his condition perfectly. His appetite is good. Has no desire to sleep during the day, but sleeps well during the night. Continues to take the full amount of the iodide of potassium (300 grains), as well as the quinine and iron.

November 1st.—Gaining in strength. Treatment continued.

November 4th.—Called at my office; looks very well. Has lost almost entirely that dull, vacant look. Memory still improving. General intelligence steadily returning. Walks a mile without fatigue. From this time he went on gradually improving; he spoke of his visit to Havana being like a dream. In the early part of January, 1871, he took very little of the iodide of potassium, and in February discontinued it entirely. In March he

was, to use his own words, quite himself again, with this exception—his sight was still imperfect. He is able to walk to his father's office every morning, a distance of three miles, and walks up in the evening without feeling fatigue.

During the summer he spent a portion of his time in the country, and returned to the city, apparently as well as ever, November, 1871. The only difficulty from which he now suffered being his visual power and capacity, I again called in my friend, Dr. Noyes, and availed myself of his skill and experience. The following is the result of his examination:

"November 24, 1871.—Mr. —— examined again. The right pupil, which was formerly dilated, is now of normal size and behavior, while the left pupil is enlarged, although contractile. The movements of the globes are normal; does not have diplopia. Vision in each eye $\frac{20}{70}$. Reads Snellen 1¼ at five inches, with each eye or with both.

"To the ophthalmoscope the right nerve appears pale and bluish white; edges a little indistinct; very deficient in small vessels. Arteries small, veins large, no pulsation. Left optic nerve, which thirteen months ago was congested, is now of a bluish white color, its border strongly defined and pigmented; has neither elevation nor depression. The small vessels in horizontal meridian very few. The adjacent retina clear, except above nerve is a glistening streak of connective tissue, and at the macula the retina has a glistening bluish or steel-colored reflex, as if due to connective-tissue formation.

"The optic nerves, it is thus seen, have passed through the period of active inflammatory congestion to the state of white atrophy. Much of the nerve-tissue has survived the ordeal, and being now relieved of the inflammatory hyperæmia and accompanying infiltration, vision has advanced from $\frac{1}{10}$ to $\frac{2}{7}$."

This was an extremely interesting case of dementia and hemiplegia due to syphilis. Small doses of the iodide of potassium failed to effect little, if any, improvement; with the increase of the large doses there was a marked daily change for the better. There was, beyond any question, extensive and diffused gummy deposit within the arachnoid at the base of the brain, but mainly on the right side. From my later experience—during the past ten years—in many cases equally interesting, I am satisfied that small doses would not have secured the good results. Large doses are essential to the absorption of gummy deposits and the hard induration due to syphilis. This I have found to be the rule in all old and inveterate cases. In the hard induration of the os and cervix uteri due to syphilis—to which I called attention some years ago—small doses of the iodide of potassium failed to effect any perceptible change in the parts; as the doses were increased the improvements were most marked. In many of the old and inveterate forms of the later lesions of the disease, it is, I am satisfied, absolutely necessary to saturate the system with the drug to derive the full benefit. There need be no fear of iodism; it is seldom, if ever, seen in the late lesions. Should it be induced, a cessation in the use of the drug for a few days will correct the annoyance. The preparations of iodine seem to have an affinity for the gummy and hard œdematous deposits of syphilis. In the case of dementia and hemiplegia, the patient took three hundred grains daily for more than eight weeks, and with the disappearance of the syphilitic symptoms, he gained steadily in his general health and in flesh. To obtain the best results in the use of the iodide, it should be taken thoroughly diluted—each dose in a glass of water. If there is any nausea, a little compound tincture of bark, or an infusion of columbo, may be added. The drug is readily and perfectly absorbed when taken in a good quantity of fluid. A little of the wine of pepsine, or a small quantity of lacto-peptine, will assist absorption. I have frequently found the latter of great service where the stomach has been, at first exhibition, somewhat intolerant of the drug. The fear of sclerosis of the kidney from the use of the iodide of potassium in severe forms of syphilis, is a phantom that has been the torment of some minds for a long time past. It may result from syphilis, not from the use of the iodide of potassium; on the contrary, the use of the iodide lessens, if it does not entirely remove, all possibilities of such a probability. In conversation, a few days ago, with the patient whose case I have quoted as a typical one of dementia and hemiplegia, he assured me he was perfectly well, and had enjoyed good health since I discharged him, cured, nearly ten years ago. He is stout and hearty, and is in full possession of all his faculties, and has been for many years attending to his business. He bears no evidence of any syphilis, and certainly none of any disease of the kidneys.

It is a curious coincidence that his father, a gentleman of over seventy years of age, who never had syphilis, and who, from his own account, never took a dose of the iodide of potassium, is now under my care, a victim of Bright's disease. He was seen in consultation about a year ago by Drs. Van Buren and Agnew, who confirmed my diagnosis. In two of the three cases of induration of the os and cervix I attended over ten years ago,* I had an opportunity, during the past summer, of confirming my impressions. They were both in excellent health. I frequently meet patients who were under my care as far back as 1864, and who, in the course of treatment, took very large doses of the iodide. They are invariably doing well, and bear no evidence of disease of the kidney or any lesion of syphilis. Indeed the greater my experience the more I am impressed and convinced of the curability of syphilis under judicious management and a thorough course of treatment.

The loose and flippant statements of many *soi-disant* experts regarding the value and efficacy of many therapeutic agents, has too often tended to excite distrust of the value of many valuable drugs.

I am fully convinced that the so-called expectant plan of treatment has, in many cases, caused more injury to suffering humanity than the so-called heroic treatment in many forms of disease. I am led, from many circumstances and observations, to think that many of those who denounce the use of good, sound, impressive doses of medicines, have more the element of self than of science in the motive; a desire to impress the uninitiated with a feeling of the wonderful conservatism and judgment exercised by the medical iconoclast. The most instructive of all clinical observations is to ascertain, at a later period, the results and value of certain courses of treatment.

427 Fifth Avenue, New York.

Static Electricity furnishes a most valuable means for the relief of impotence, according to Dr. R. A. Vance.

* Reported in American Journal of Syphilography and Dermatology, October, 1874.

## EFFECTS OF THE ABUSE OF THE SEXUAL INSTINCT IN FEMALES.

By WILLIAM A. DAYTON, M.D.,

NEW YORK CITY.

The accordant testimony of all writers on the perversion of the sexual agency proves, beyond the possibility of doubt, that many of the special diseases of women originate from violation of the function of coition. A thorough treatise on this subject, at once broad and important in its varied aspects is, however, wanting in gynecological literature; and I venture the following statements, which may prove of service by inviting a line of investigation that is worthy of greater consideration than has yet been accorded to it.

Professor T. Gaillard Thomas ("Diseases of Women," p. 649) says: "The coming decennium will, I feel convinced, prove that in many cases disease of these most important organs (the ovaries) in the female economy is the source of many ills now attributed to that less important viscus, the uterus." Again, under the head of treatment for ovaritis (p. 650), he says: "Sexual intercourse should be limited as far as possible." Intercourse is here interdicted, as it aggravates the existing irritation. We know that the *complete* sexual act (*i.e.*, terminating in orgasm) is a normal stimulant to the ovary or ovaries; but when abused, the excessive stimulation must result in pathological conditions.

The phenomena accompanying the exercise of the sexual instinct in the female have gradually been brought to light by careful observers; and now but one point remains to be demonstrated, viz., the rationale of orgasm. Assuming merely that the sexual instinct in all its phases is designed for a definite *use*, I propose to show that *abuse* of this instinct will induce: 1st, inflammatory changes in the ovary, beginning as a simple congestion; and 2d, abortion. The latter resulting either from reflex irritation originating in the ovaries, or from (what is probably the most common cause) frequent erection of the uterine tissues. That erection of an impregnated uterus can occur without destroying the adhesions of the ovum, is illustrated in all cases where the sexual instinct is exercised moderately, and utero-gestation continues to full term. It is, therefore, abuse alone that induces abortion.

### DIFFERENTIATION BETWEEN USE AND ABUSE.

Within the range of perfect health there is a standard for all the functions of life. When stimulant powers are applied in *due* proportion, vigor, tone, and health of the organs is the result. Here is suggested the argument that "each man is a law unto himself," nay, and each woman as well. Still, these functions can only be performed in a *due* degree. To say that they can be performed in an excessive degree, within the limits of health, is as great a contradiction in terms as excessive virtue or excessive joy—the one is vice, the other pain. The standard, then, consists in a pleasant, easy, and exact use of these functions. Applying this idea to the generative function in women, we find that the perversion of the sexual instinct in girls, and the too frequent indulgence in the complete act in married women, are abuses which nature can not and does not tolerate. The fact that these abuses are so common, and continued to such lengths with concealment, that, coupled with the testimony regarding the increase in diseases of women, I am not surprised at Professor Thomas' prediction as above quoted; and I fully believe that the ovaries *will* be found to be the seat of disease in most instances where the history of solitary or sexual excesses is obtained. The development of the nervous system in girls is marked by certain peculiarities at the time of puberty, which are due to the extensive change occurring in the generative tract, whether that time be hastened or protracted by varying causes. The factors comprising the change are: 1st, increased vascularity; 2d, increased dimensions, together with the awakening of the nervous functions, thus producing, respectively, local warmth, local weight, and local sensibility; conditions that are favorable to that important change "from the passive to the active condition." (*Vide* Harvard Prize Essay: Mary Putnam-Jacobi.) In this healthy, "active condition" of these parts, abuse in either way specified induces pathological changes, ofttimes of the most alarming and obstinate character. Perhaps the latest views bearing directly upon this subject are presented by Dr. G. M. Beard in the Medical Record of February 19, 1881. Speaking of "sexual neurasthenia in women," he says, "Woman is man, pathologically." In the three cases cited, "ovarian tenderness" was a prominent result of self-abuse. This result of abuse is entirely in accord with other observations on the subject as well as my own; but I would take issue with the doctor on the first statement. Prolonged sexual or other abuse in men impairs the function of the semeniferous tubules, and impotence rapidly ensues. In women, on the contrary, the ovaries are abundantly supplied with primitive ova, which, according to De Graaf ("Buffon's Nat. Hist.," vol. iii., p. 41), "increase with age and intercourse with men." Hence a case of acquired impotence in a female has yet to be recorded. Premature decline and death, as illustrated in the cases of prostitutes, is the result of abusing the sexual instinct, rather than impotence.

Without doubt, complete ovulation is a prerequisite to menstruation and conception; but that the height of sexual excitement, orgasm, necessitates the escape of an ovule, must be an open question until actual demonstration settles it. The only fact we know in this connection is that women, normally, are most prone to excitement at or about the menstrual epochs. In women, physiologically perfect, an ovum escapes from the ovary once every twenty-eight or thirty days. Prof. Charles D. Meigs enunciated the opinion that the development of the Graafian follicles even continued throughout pregnancy, which opinion has been confirmed by Dr. Slavjanski (*Med. Central. Zeitung*, October 30, 1878). It would therefore appear that the process of ovulation is never at rest from "puberty" until the "change of life." It is a process of invariable occurrence in health during these limits, and, like any other physiological function, it can be so stimulated as to induce abnormal cell development and other changes in the ovaries. (See article on "Ovaritis," by John Williams, M.D.: Reynolds, vol. iii., p. 851.)

Regarding the escape of ova, there can be but one opinion. The only secretion found in the ovary is the liquid of the Graafian follicles, and it is this liquid which determines, for the most part, "the rupture." When the follicle ruptures the ovum is said to be "ripe;" but that an ovum can not escape without the presence of this secretion cannot be denied in the light of the latest observations. Hence, Coste, as quoted by Flint, says: "I believe there are cases in which, *in the absence of suffi-*

*ciently favorable conditions* this distended vesicle cannot accomplish this end (rupture), and, as in mammals, may remain stationary or be entirely re-absorbed." We learn, also, from the experiments of Coste, Flint, *et al.*, that "coitus will precipitate the rupture of a ripe follicle." Coitus can effect this in but one way, viz., by inducing a determination of blood to the ovary, whereby the only process of secretion in that organ is augmented. This congestion results from two causes; 1st, from erection of the uterus and the Fallopian tube; and 2d, from the squeezing action of the fimbriated extremity on the ovary. (*Vide* Ramsbotham: "Process of Parturition," p. 65.) We can, therefore, readily understand that *when the ovaries are over-stimulated they will over-secrete;* but, be it remembered that over-stimulation cannot occur save that a woman exercises the complete sexual act, and that to excess.

In taking up the subject matter—abuse of the sexual instinct—we are led to note: 1st. What constitutes the complete sexual act in the female? 2d. What is the condition of the intra-pelvic organs and nervous system during and subsequent to the act? 3d. What are the effects of too frequent repetitions of the act?

We recognize that for the normal mechanism of any function, the organ or organs concerned in it must be physiologically perfect; and, as regards the generative functions, we must remember that they, perhaps, are pre-eminently influenced by any derangement in the economy. The sexual instinct is not experienced until after the establishment of menstruation, and from that time the hitherto "dormant flood of passion" is developed gradually to perfection on physiological principles and for physiological ends. This we cannot doubt when we take into consideration the design of the organs of generation. Note here the distinction between "man and the lower animals" in the aptitude for intercourse. While a discussion of this subject is here uncalled for, a practical point is suggested, viz., that the complete sexual act may be exercised in the human female at times other than about the menstrual periods.

The first question under consideration is, *What constitutes the complete sexual act in the female?* I do not know that this has ever been concisely and satisfactorily answered, but the reply is summed up in four words, viz.: excitement, erection, orgasm, and impregnation—nihil plus, nihil minus. This is easily illustrated in any case where a single concourse results in pregnancy. In the orgasm of masturbation, I believe the fimbriated extremity of the Fallopian tube, after its erection, grasps the surface of the ovary, as in the former case.

Anticipating the question of conception without excitement, erection, and orgasm, I quote from Prof. Montrose A. Pallen's paper (*American Journal of Obstetrics*, July, 1880), as follows: "Many women contend that they have no orgasm, which cannot take place without erection, yet such may ensue without consciousness upon their part, because of the faulty development or distribution of the sensory nerves. The mere friction contact of the male organ with the uterine cervix is sufficient to provoke response in the erectile tissues" (uterine, salpingial, and peri-salpingial), "just as a full bladder or loaded rectum may produce it in the male during sleep or intoxication." It is not women thus constituted, however, who suffer from abuse. When the instinct is not perceived it certainly cannot be abused; therefore the complete act requires, as Professor Pallen justly observes, "a kind of education, as it were." The first attempts are usually incomplete, in that several uterine contractions occur without "the climax." It is for this reason that Spencer Wells argues "that in every seven fruitful marriages, delivery takes place in but four of them prior to the expiration of eighteen months; while Pueck, for the same reason, found that in ten fruitful marriages, but five of the women were confined by the end of the first year. I have here collected three cases bearing upon the subject, which are of interest. The first is a case of Dr. Beck's, quoted in Flint's "Physiology," p. 890. The patient was a very erethistic female, and was under treatment for uterine prolapse. Dr. Beck "swept the right forefinger across the cervix twice or three times, when almost immediately orgasm occurred. The os opened to the extent of fully an inch, made five or six successive gasps, drawing the external os into the cervix each time powerfully, and at the same time becoming quite soft to the touch. All these phenomena occurred within the space of twelve seconds time certainly, and in an instant all was as before; the os had closed, the cervix hardened, and the relation of the parts had become as before the orgasm." The woman was "positive" that the sensations produced were the same in quality as they were during coition. For evident reasons this is not a test case. It is of interest merely in proving that erection of the uterus is an essential factor in the complete act, and the term "orgasm" is, I think, here misapplied, as twelve seconds is entirely too short a time for the "crisis" to supervene.

The second case occurred in the hospital practice of Dr. Paul F. Mundé. A Swedish woman, aged twenty-six, while undergoing an examination, was accidentally touched on the cervix with a uterine probe. She immediately became excited, when Dr. Mundé repeated the cervical friction, at the same time commanding her to "keep still." Intense sexual excitement was betrayed in an unmistakable way, and the cervix contracted at each touch of the sound; but her sudden rising, with the speculum *in situ*, prevented further study. This case proves "the contractions" as in the former, but it shows more, viz., that orgasm had, in all probability, not occurred, and that further stimulation was necessary to provoke it. The developments in the third case were as follows: A German girl, aged twenty-two, was addicted to excessive masturbation. At the time of her examination for anteversion, two weeks—or strictly, thirteen days—had elapsed since her previous "period," and seven days since the last "abuse." She cautioned her physician against "too much fingering," as she was "easily thrown into an uncontrollable condition." With all possible care the forefinger was introduced and the cervix touched, when intense "desire" began to be manifested. A continuance of the touching was solicited. In not less than *sixty seconds* the cervical contractions began, succeeding one another rapidly and regularly for fully *another minute*, when, after a deep sigh, they ceased, and the cervix was normal again, save considerable turgidity. A good sized speculum was then introduced, the cervix was again rubbed, even the clitoris was touched, but without response, and the examination was completed. In this case the ovaries were enlarged and very sensitive.

The lassitude which follows the complete act is very characteristic, incapacitating a woman for some time; while the mere uterine contractions may recur indefinitely in response to the necessary stimulus,

until the "crisis" occurs. Every close observer cannot fail to note this fact.

As we have seen, there is no doubt that the rupture of a Graafian follicle does occur as the crisis of the sexual act; we know that crises can occur at times other than about the menstrual epochs, and here is presented the important question: Is the rupture of a Graafian follicle essential to orgasm? Even supposing such to be the case, this would not account for the real source of enjoyment at the "crisis;" for we know that ovulation *per se* is never conducive to any such effect. The crisis is, in all probability, due, after the uterine contractions, to the spasmodic movement of the fimbriated extremity of the Fallopian tube toward the congested ovary. The process is thus described by Ramsbotham, p. 65: "By its own inherent muscular power, the Fallopian tube, under the venereal orgasm, erects itself somewhat like a snake raising its crest. By the same inherent muscular power it directs itself to the ovarium, it widely spreads its fimbriæ, expands itself upon the external surface of the gland, closely embraces it, and squeezes from it the contents of one of the follicles of De Graaf." I have recorded two cases which sustain this theory. The first, Mrs. I. W——, a patient of mine, ceased to menstruate at forty-four and a half years of age. Her husband informed me that she enjoyed coition as much as ever, but the desire was never manifested until provoked. The second case is the wife of a physician, in whom the menopause occurred on her forty-sixth birthday. The doctor volunteered the information, in a conversation upon the subject, that his experience was entirely in accord with the case just cited.

THE CONDITION OF THE INTRA-PELVIC ORGANS AND THE NERVOUS SYSTEM DURING AND SUBSEQUENT TO THE ACT.

As long ago as 1846, Litzmann (Flint's "Physiology," p. 891) observed that the uterus erected itself, as the result of stimulating it, during an examination; and other trustworthy observers have seen the same condition since under similar circumstances. Ramsbotham ("Process of Parturition," p. 65), as above quoted, asserts that the same inherent power of erection exists in the Fallopian tube. We know, further, that during "the act" all the erectile tissues in the vagina are called into play; so that, recalling the physiological causes of erection, we can readily understand that at the "crisis" the entire generative tract is in a state of congestion, and that —normally—for a definite end. When the process terminates, the hyperæmia subsides, and the parts regain their former state. Again, the nervous system is called into play; and it is this operation of the nervous functions which gives rise to the lassitude succeeding "the act." It is, of course, impossible to determine the time required for a normal congestion of these parts to subside. The rapidity with which these organs and the nervous system regain their previous condition must depend upon the vigor, etc., of the subject. But recalling how slow the process of reparation is after the rupture of Graafian follicles, may not this be an argument as to the danger of over-stimulating the ovary?

THE EFFECTS OF TOO FREQUENT REPETITIONS OF THE COMPLETE SEXUAL ACT IN THE FEMALE ARE LOCAL AND CONSTITUTIONAL.

In reviewing the subject of "intemperate intercourse" as a source of disease in women, we are impressed by its frequent mention by eminent authorities. In Prof. T. Gaillard Thomas' work, variously interpreted, it is mentioned as a cause of acute endometritis (p. 230), chronic cervical endometritis (p. 240), chronic corporeal endometritis (p. 258), areola hyperplasia (p. 293), granular and cystic degeneration (p. 310); also as a cause of pelvic hematocele (p. 492), periuterine cellulitis (p. 458), etc. In an article on "Inflammation of the Ovary" by Dr. Williams (Reynolds, vol. iii., p. 853) "excessive sexual indulgence" is stated as being a prominent cause of ovaritis. Again, in an article by Dr. Priestly (ibid., p. 784) on "Metritis," too frequent indulgence in "sexual intercourse" is pronounced "a potent cause of these affections." Thus we might go through a long list of standard authors, adducing evidence enough of positively evil results from abuse of the sexual instinct; but, perhaps, the most common effects of this abuse are ovaritis (in one of its forms) and abortion.

This day (October 29, 1881), an abstract from a paper on "Ovaritis," by Prof. Vedeler, is published in the MEDICAL RECORD, to which I wish to refer. The pathology is admirably stated thus: "That as the inflamed ovary is irritable, and larger than normal, and, as a rule, dislocated and fixed, it is easier to feel than the normal one. The size of the inflamed ovary is, in the ordinary forms, about that of a common apple; in chronic cases, that of a walnut, chestnut, or (most frequently) an almond shell; the surface is generally smooth, the consistence elastic. In the larger ovaries can be felt distinctly small elevations, supposed to be inflamed and hypertrophied follicles." Of the fifty cases under his observation "excessive coitus was not met with as a cause." Thirty-eight per cent. were caused by gonorrhœa. But mark the following statements. "Over thirty per cent. were sterile," and "in eighteen of the fifty cases no cause could be found." As regards the sterile women, no wonder that "excessive coitus" was not assigned as the cause of their ovaritis; and perhaps this review of the subject of abuse may point to the cause in the eighteen odd cases!

All cases of ovaritis, whether concealed* or apparent, caused by abuse of the sexual instinct, must begin as a simple congestion in or about the ovary—in other words, as the recognized first stage of inflammation, upon which a subacute or an acute form may supervene, according to the degree of application of the exciting cause. Two elements in the complete sexual act can induce this congestive stage. First, erection of the Fallopian tube and perisalpingial tissues. Second, the action of the fimbriated extremity on the periphery of the ovary. This congestion is normal at seasonable times; but when encouraged by violation of the province of coiture, pathological conditions must be the inevitable result. See, in this connection, "Prolapse of One or Both Ovaries from Sympathetic Engorgement of the Ovaries." Hartshorne (Reynolds, vol. iii., p. 854).

That the effect of frequent erections of the uterus will induce abortion, is readily demonstrated in the familiar cases of prostitutes. A careful analysis of these cases proves that it is not any form of metritis or ovaritis, nor is it, so much, the peculiar life these women lead, which induces, primarily, general debility and "neurasthenia," but the extent of abuse to which the generative organs are subjected. In cases of endometritis, etc., in this class of patients, the elements of conception are not retained at all, and even when the uterus is normal, containing an

* See Reynolds, vol. iii., p. 851.

impregnated ovule, the latter is readily displaced by frequent erections of the organ; while the tendency to abort increases after each displacement.

Unfortunately the sexual instinct in polite life is too little thought of as a source of irritation; whereas it is not infrequently abused, often furnishing a practitioner with mysterious cases of the origin of which he knows nothing, and into which it might be considered, by interested parties at least, improper to inquire. The fact that many of the diseases of the generative tract, together with abortion and various constitutional disturbances, are the direct results of abuse of this instinct, is sufficient to warrant careful inquiry in all cases; and we should be prepared to preach moderation or total abstinence as occasion might demand.

I have recorded nine cases of abortion between the first and third month, which could be easily traced to abuse of the sexual instinct. In six of the nine cases impregnation occurred between seven and ten days prior to the anticipated menstrual flow. The reliability of my memorandum is sustained by the fact that the husbands in two instances were very ill from the time of the previous menstruation until the time mentioned. In the other four cases the husbands were absent during the previous period, and returned at the stated times. This furnishes strong evidence that coitus hastens the rupture of the vesicles of De Graaf. It is generally conceded that the aptitude for intercourse in pregnant women is decidedly diminished; in fact, in some women the instinct develops (temporarily) into disgust. At all events, "it is certain that intercourse is *not* normal in the female during the greater part of the period of utero-gestation." (Flint's "Physiology," p. 888.) In each of the nine cases of abortion above referred to, the sexual instinct was highly developed, and pregnancy, to use the expression of one patient, "rather increased the desire and satisfaction." In such cases, there is reason to believe the ovary tract is readily congested from previous excesses. Another patient informed me that "she knew the very moment when the miscarriage commenced;" she "felt" (after a violent intercourse on her part) "as if something had given way." Thus the history in each case was so complete as to admit of no doubt as to the real cause of premature expulsion of the ovum.

As long ago as 1797, Buffon ("Natural History," vol. iii. p. 203), in following up the researches of De Graaf, said: "We must conclude that the most abandoned women will be the least fruitful, because they emit that liquor which ought to remain in the matrix for the formation of the fœtus. Thus we see why common prostitutes seldom have children, and why women in hot countries, where they have stronger desires than in the cold, are much less fertile." The subject is, therefore, by no means new; but the fact should not be overlooked, as it is, that erections of the uterus, induced by inordinate intercourse, is a positive cause of abortion.

*Experiment.*—In the autumn of 1879 I secured two bitches, in rut at the same time, and allowed two dogs to enter the room, where they were closely watched. After one connection, I took the males out. On the following day four males were admitted, and, after the usual quarrel, all were gratified and withdrawn. On the third and fourth days the females received each a male, and on the fifth one of the two refused its mate in angry tones. The external genitals were, in each instance, red and swollen, and the animals displayed considerable languor. At the end of three days (the eighth after confinement) one of the animals died, and the other gave birth to five undeveloped pups on the eleventh day. The generative tract of the former was in a state of intense venous congestion, and contained some blood, mucus, and a mass of gelatinous material, unmistakably the elements of conception. The living animal escaped, through neglect, and since that time I have not had an opportunity to repeat the experiment. I might add, in the case of the animal that died, that I forced the last connection by holding its feet *in situ* for the male, until she was sufficiently passionate to hold her own. I am sure these experiments can be repeated; and they are instructive in that they tend to prove the disastrous effects of excessive coition.

A bit of conclusive testimony regarding abortion, as the result of uterine erections, may here be quoted from Leishman's work on midwifery, p. 369. Says Dr. Dewees, "very sick women rarely miscarry." Therefore, "we may feel inclined to share the general impression, that sickness is a safeguard, and probably keeps down morbid irritability or rigidity of the uterine fibre."

The final question now presents itself: To WHAT EXTENT MAY THE SEXUAL INSTINCT BE INDULGED, IN THE FEMALE, WITHOUT POSITIVE INJURY? The fact that the constitutions and temperaments of females differ in such varying degrees, precludes anything like definite conclusions in the matter; but the contrast is so striking between cases where orgasm is the inevitable result of each congress, and where it (orgasm) is intermittent, that we are constrained to believe there must be a limit within the range of health. Flint, as above quoted, says: "Intercourse is not normal during the greater part of utero-gestation." Leishman ("System of Midwifery," p. 182), says: "Among Jews the sexes are separate during menstruation and for seven clear days thereafter. This protracted abstention from sexual intercourse may be admitted as a possible cause of the undoubted vitality of the Jewish race;" and in connection with these data, the nine cases of abortion referred to, point to the fact that the sexual instinct can be and is not infrequently sadly abused.

The nearest approach to a law on this subject is the opinion enunciated by Martin Luther. In his mother tongue it is thus poetically expressed:

> "In der Woche zwier
> Macht im Jahr ein hundert vier
> Schadet weder mir nooh dir."

To say the least this is a pretty safe guide; but, I believe, even this might prove excessive in the cases of many women. The careful testimony of physicians, for some time to come, can alone determine how far into pregnancy, and to what extent, the sexual instinct can be indulged with safety; but in the unimpregnated condition, when we discover any such effects as local inflammations (consult Reynolds, vol. iii.), displacements (Thomas), dysmenorrhœa (Thomas), inveterate dyspepsia (Reynolds, vol. iii.), menorrhagia (Reynolds, vol. iii.), gastrodynia (Reynolds, vol. iii.), ovarian neuralgia, "neurasthenia," and frequent abortion, we may find, in many instances, the real source of irritation to be abuse of the sexual instinct, when the remedy will at once suggest itself. Further investigation in this connection is "a thing devoutly to be wished," for continuous congestion of the uterus and its appendages,

from violation of the province of coition, must be highly favorable to pathological conditions; and it is certain that women who continue these excesses are soon debilitated, and become fit subjects for the perilous diseases of "the sex."

## FIVE CASES OF MEMBRANOUS DYSMENORRHŒA CURED BY MERCURY.

By ROBERT ORMSBY, M.D.,
NEW YORK.

It is rather a singular fact that mercury has not been recommended before for the above pathological condition, and I am sure, in the light of modern research, when we have been enabled to see the hyperplastic element in the deciduous membrane of the uterus so pathologically affected, many readers will wonder that, rightly or wrongly, mercury, considering its efficacy in all forms of acute or chronic hyperplasia, should not have been thought of. At the same time, I cannot say that the use of mercury by me was caused by any argument *à priori*, but was simply enough discovered through an accident of a rather unpleasant character, and as follows:

Case I.—A lady (married five years and without children) called at my office, complaining of painful menstruation, which, on examination, I found to be due to the throwing off of a deciduous membrane every month, large shreds and flakes accompanying the flow each time. On further examination, I found the os somewhat constricted, and, to remove all elements of chance from the case, I proceeded slowly to dilate the neck between the time she called upon me and the next menstrual epoch. When within a few days of her expected menstruation, I inserted a sponge-tent of medium size for the purpose of still further and more rapid dilatation. This proceeding was unfortunately followed by metritis and some peritonitis, for which I prescribed the almost classical calomel and opium, as follows:

℞. Ext. opii..... gr. vi.
Hydrargyri chloridi mitis..... gr. xii.

To be divided into twelve pills, and one pill to be taken every four hours; and as her menstrual period had about arrived, I ordered half an ounce of liquor ammonia acetatis every two hours. This last remedy I had frequently used in England and here for the dysmenorrhœa. By a mistake her husband reversed the directions, and, having mixed up the hours of the mixture with the number of the pills to be taken, he gave his wife two pills every two hours. He appeared to have some firm conviction in his own mind that pills were by far the best way of administering medicine, for he gave her the pills most unremittingly, and even went to the trouble of getting them made up again before I called. The result may be imagined. When I called again, about twenty-four hours after, the woman had about twenty-four grains of calomel in her system, and was just as if she had been made of wet paper. He had set up ptyalism with a vengeance, *but her menstrual flow had been started without pain in the interval, and no shreds or traces of a deciduous membrane could be found.* My readers may be sure I stopped the calomel very quickly, ordering the opium to be continued, and giving chlorate of potash. It is now five years since this occurred, and she has had no dysmenorrhœa since.

I was wise enough to accept this hint, and have since tried the remedy upon the following cases, and submit them with all becoming modesty to critical analysis and the test of time.

Case II.—Mrs. F——. Membranous dysmenorrhœa. Gave no treatment till within three days of her expected menstruation, and then gave half a grain of calomel and half a grain of opium three times daily. Menstruation very much improved; a few shreds and very little pain. Told her to come and see me a few days before her next menstruation, which she did. I gave her one grain of calomel and half a grain of extract of opium every four hours. In two days her gums were slightly sore. Told her to take one pill twice a day. Her menstruation appeared next day painlessly, and has been painless ever since, a little over four years.

Case III.—Mrs. P——, married, no children. Gave her, three days before her menstruation, one grain of calomel and half a grain of extract of opium. Gums slightly tender in two days. Instructed her to take one pill twice a day. Her menstruation did not appear next day, as we expected. Told her to take on that day three pills, and on the next day her menstruation appeared painlessly—three years ago, and no recurrence of the pain.

Case IV.—Mrs. H——, sister-in-law of the above; brought from Auburn to be treated; married, no children. This lady did not believe that anything could be done for her relief, as she had tried doctors in all directions. At her last menstruation her husband and relatives despaired of her recovery. Treated her in the same manner as her sister-in-law, and produced as happy a face as ever rewarded a doctor, for, as she said, it was the only time in nine years she had had a painless menstruation. I kept this lady in the city several months to verify my treatment, and repeated it the succeeding month; again no pain. The third month I left to itself, and her menstruation came on painlessly, and has since—that is eighteen months.

Case V.—Mrs. F——. Treatment same as before for one month only. Touched her gums slightly, and kept them so till her menstruation appeared, painlessly as usual. I saw this lady to-day, and her menstruation is on, without any warning, even.

I have never seen this treatment fail, and that its effects are permanent is remarkable; but as there is so much habit in this question of painful menstruation, and as I most decidedly interrupt it, for one month certainly, I think is an almost sufficient explanation. The only thing I would recommend is that the mercury should be pushed to the verge of safety, for I think the modification in the pathological processes occurring in the decidua will be in direct ratio with the impression made on the system. I have not used any form of mercury but the calomel. This at first was the result of chance, but has been since a matter of election, as I think that it is the best form for producing rapid effects with little irritation.

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Prof. Charcot is not so familiar with the English language as with the nervous system. At the meeting of the International Medical Congress several English and foreign doctors were discussing the style of apparel most suitable for a reception which was to come off that evening. Prof. Charcot quietly observed, "As for me, I shall go in my night-dress."—*Medical and Surgical Reporter.*

# Progress of Medical Science.

NASCENT IODIDE OF SILVER IN THE TREATMENT OF CONJUNCTIVITIS.—According to Sédan (*Recueil d'Ophthalmologie*, May, 1881). M. Brame. of Tours, was among the first to advocate the use of iodide of silver in conjunctivitis. Dr. S. instituted a series of observations, with this remedy, in Algeria, where cases of chronic conjunctivitis are very numerous, and found it decidedly efficacious both as a prophylactic and in the cure of acute and chronic cases.

Two solutions are requisite for the manufacture of the nascent iodide. One of these is a solution of the iodide of potassium, 3 grm. and 32 ctgr. in 10 grm. of distilled water. The other solution is composed of nitrate of silver, 3 grm. and 56 ctgr. in 10 grm. of distilled water. Both solutions are preserved in bottles made of colored glass. The nascent iodide of silver is prepared by dipping separate glass rods into either solution, withdrawing a drop of each and subsequently mingling them on a piece of porcelain. The resulting precipitate of nascent iodide is placed upon the erected lower lid and thence allowed to diffuse itself over the entire conjunctiva. The iodide thus prepared dissolves very slowly in the ocular fluids, and produces much protracted pain. This inconvenience may be obviated by the employment of glycerine as the menstruum. The border of the lids should be anointed with vaseline to prevent them from becoming adherent. Dr. Sédan had constant, rapid, perfect, and permanent results in more than three hundred cases subjected to the treatment in question. He states that a single application will often cure simple cases, while in ninety-two out of one hundred cases, selected at random, less than four applications were necessary to effect a cure.

CALCAREOUS DEGENERATION OF THE MEMBRANA TYMPANI.—Dr. Cineselli (*Il Morgagni*, March, 1881) has investigated the calcareous degeneration of the membrana tympani with reference to its agency in the production of senile deafness. On comparing the ear-drums of a man sixty-five years of age with that of a man twenty-three years of age, he noticed that the former was dotted, chiefly at its centre, with finely granular matter, while the latter had no trace of such an appearance. The solubility of this granular deposit in acids, with effervescence, established its calcareous nature. Dr. Cineselli was led, by observations upon thirty-five individuals, to the following conclusions: the calcareous degeneration of the membrana tympani begins between the thirtieth and thirty-fifth year, and, progressing uninterruptedly, completely incrusts the surface of the drum by the sixty-fifth or seventieth year. Occasionally the calcareous degeneration involves the radiating fibres of the drum, and even of the cartilage, which corresponds to the handle of the *malleus*, in which the central radiating fibres of the drum terminate. Dr. C. is of the opinion that the degeneration in question produces the deafness of old age by diminishing the rapidity and the amplitude of the membrana tympani's vibrations.—*Revue Mensuelle de Laryngologie, d'Otologie, et de Rhinologie*, June 1, 1881.

TREATMENT OF HERNIAS OF LONG STANDING.—The following conclusions are reached by M. Thiry, in a paper on the above subject, presented by him to the Royal Belgian Academy of Medicine: (1.) Old hernias of large extent, constituting a variety of eventration, are susceptible of reduction in most cases. (2.) The large volume of a hernia is never a contra-indication to its reduction, although it necessitates the adoption of certain precautions, and the employment of considerable time. (3.) The diminution in the capacity of the abdominal cavity, in old hernias, is never antagonistic to a slow, methodical, and progressive taxis. (4.) By slowly re-entering the abdominal cavity, the extended parts gradually resume their former places. (5.) The best method of reduction is the "compressing taxis," which consists in only restoring organs to their natural position after they have been relieved, by pressure, of any vascular engorgement. Those organs which effected an exit last should be first replaced. (6.) In this variety of hernia, an elastic truss, adapted to the gradually decreasing size of the tumor, should be attached to an abdominal belt. (7.) When the hernia has been completely reduced, the projecting knob of the truss, with properly shaped convexity, should penetrate the ring and adapt itself to its dimensions.—*Bulletin de L'Académie Royale de Médecine de Belgique*, vol. xv., No. 6.

USE OF PILOCARPINE IN DIPHTHERIA.—Dr. J. Gerard's most enthusiastic recommendation of pilocarpine in diphtheria would carry deeper conviction with it did it not bear evidences of too hasty generalization. The author treated only one case of malignant diphtheria in which the patient seemed moribund in spite of the employment of the ordinary remedies, with the following mixture:

| | |
|---|---|
| ℞. Pilocarpine muriat..... | .05 |
| Pepsin extractive..... ..... | 1. |
| Aquæ destil..... | 150. |
| Acid hydrochloric..... | gtt. iij. |

One-third of the mixture was at first given, and all the physiological effects of the pilocarpine having been speedily produced, violent emesis occurred (within eight minutes), by which the false membranes were expelled. Cyanosis then disappeared and the respiration became normal. The same quantity of pilocarpine having been administered hourly, the child was considered out of danger after twenty-four hours.

M. Sueboullet (*Journal des Sciences Médic. de Louvain*) presented to the medical society of the hospitals a case in which the hypodermic administration of pilocarpine seemed to greatly favor expulsion of the pseudo-membranes by the physiological hypersecretion of saliva and mucus it induced. Recourse having been had, in a desperate case of malignant diphtheria, in which asphyxia seemed eminent, to pilocarpine, two injections, each containing 5 milligr. of the nitrate, were employed in twenty-four hours. The resulting salivation was believed to hasten the expulsion of the membranes. On the two succeeding days three injections of .015 each, were exhibited, after which the remedy was discontinued. On the third day convalescence was begun, and a complete recovery made by the twentieth day.

Professor Giulio Lepodi-Chioti (*ibid.*) publishes his personal observations made in the treatment of diphtheria with pilocarpine, by which he is led to the conclusion that the drug hastens the detachment of the false membranes and abbreviates the course of the disease. He also maintains that the abundant perspiration acts as a powerful emunctory agent and eliminates the virus of the disease from the blood.

The remedy was administered hypodermically and by the rectum. Small doses must be first employed, owing to the susceptibility of many persons to the action of pilocarpine.

*Le Lyon Médicale* publishes the case of a child six and one-half years old, occurring in the practice of Dr. Cassin, of Avignon, in which similar fortunate results attended the use of pilocarpine in diphtheria. The formula employed was as follows:

| | |
|---|---|
| ℞. Pilocarpine muriat..... | .01 |
| Pepsin ..... | .02 |
| Acid hydrochloric ..... | gtt. j. |
| Aquæ destil..... | 120 grm. |

One dessertspoonful was given hourly, for two days. On the fourth day only four doses were exhibited and the remedy then suspended, convalescence being established.—*Archives Médicales Belges*, June, 1881.

Professor Prentiss (*Philadelphia Medical Times*, August 13, 1881), referring to the published cases of Guttman, Lax, and Wendt, says that, in the question under consideration, the preponderance of evidence seems to be in favor of pilocarpine. His own experience with the drug corroborates this view. He prefers, however, the hypodermic mode of administration, using one-sixth of a grain for a dose in adults. Children readily take the drug in the form of powder. Hydrochloric acid solutions he thinks are unnecessary, because they afford no special advantage over simpler ways of giving the medicine.

Bromine Eruption in a Nursling.—At a recent medical meeting in Vienna, Kaposi exhibited an infant, nine months old, suffering from an eruption of the following description: both cheeks were the seat of numerous hard, infiltrated, acinose patches, each as large as a dollar, while the surface was perforated by sharply cut holes, through which pus exuded. There were also brownish red tubercles as large as peas, scattered over the face, and tense bullæ, similar to those of varicella, on the ears. Numerous tubercles, some the size of a bean, were met with on the nates and thighs. The mother stated that the eruption had made its appearance two weeks previously and had spread rapidly. Kaposi at once recognized the case as one of intense bromine acne; but, upon asking the mother for how long a time and in what amount the infant had taken bromide of potassium, she said that it had received none at all. It was elicited, however, that the mother, who was suffering from some nervous affection, had taken 120 grm. of bromide of potassium in a period of two months, but, what was most remarkable, had discontinued the use of the drug two weeks before the first appearance of the eruption. In the way of treatment Kaposi recommends emplastrum hydrargyri, which promotes a rapid absorption of the infiltration, and thus prevents scarring. (The unguent. hydrarg. [Germ. Pharm.], it need hardly be stated, is quite a different preparation from ung. hydrarg., U. S. Ph.—Rep.).—*Allgemeine med. Central-Zeitung*, August 17, 1881.

An Enormous Dose of Pilocarpia.—In the *Wiener medicinische Wochenschrift*, August 27, 1881, Sziklai records a case of glaucoma, which was cured by sclerotomy and the subsequent hypodermic injection of a single dose of the muriate of pilocarpia (2 degr.). The patient was first seen in 1879. He was then completely blind. The eyes were as hard as stone, the pupils dilated *ad maximum*, and the vitreous in each case so obscured as to prevent any view of the retina or optic papilla. Sziklai then performed sclerotomy, and upon making a second visit, three days later, prescribed 4 ctgr. of pilocarpia in 2 grm. of water, of which solution he injected 1 grm. at 7 P.M. The needle had hardly been withdrawn from the skin before saliva began to dribble from the patient's mouth. This was very soon followed by diaphoresis, and later by vomiting, diarrhœa, and diuresis. In the course of the night an enormous amount of fluid was excreted in this way. At the same time the patient complained of tugging pains in the eyes. Next morning, on removing the bandages, the pupils were found extremely contracted and the patient saw very well. The excessive excretions had almost wholly subsided, but the patient was very much prostrated. On examining into the circumstances more closely, it was found that the apothecary had, by mistake, made up a solution of 40 ctgr. (gr. vj.) in 2 grm. (ʒ j.) of water. At the time of the publication, two years after the occurrence, the patient's sight continued to be very good.

Spontaneous Rupture of the Stomach.—Chiari and Lantschner each report a case of this kind. Chiari's case concerned a fifty-three years old woman, who died a few hours after admission into the hospital, the symptoms consisting only of several attacks of vomiting and of intense pain in the belly. On post-mortem examination the curvature of the greatly dilated stomach was found very much shortened by numerous cicatrices, the pylorus being thereby sharply bent on itself, although still permeable. A longitudinal rupture was present in the most extensive cicatrix, extending 3 ctm. on either side beyond the limits of the latter. The laceration involved the mucous membrane, the muscular strata, the peritoneum in the region of the scar, and also the dense adhesions which had formed between the peritoneal surface of the stomach and the peritoneum of the omentum, which had constituted the floor of the ulcer. There were also two smaller lacerations in the vicinity, affecting only the mucous membrane. The margins of the rents were free from any signs of peptic arrosion, so that Chiari concludes that the case was, in part, at least, one of spontaneous gastrorrhexis. A very extensive subperitoneal, mediastinal, and subcutaneous emphysema gradually developed after death. Lantschner's patient was a lady, seventy years of age, who had been affected for forty-five years with an umbilical hernia, which had attained the size of a large gourd. After having taken a walk she complained of great thirst, and subsequently had nausea and vomiting. While retching, the patient and those at the bedside heard a loud report, which was succeeded by collapse, death setting in about thirteen hours later. On post-mortem, the hernial sac, consisting of peritoneum, was found to contain the small intestines, with the pyloric end of the stomach, the coils of the former being partly matted together by adhesions, partly constricted by bands of adventitious connective tissue running from the intestine and mesentery to the thickened hernial sac. Along the posterior wall of the stomach, involving all the coats of the organ, there was a rent several centimetres long, through which particles of food had passed into the peritoneal cavity. In other respects the walls of the stomach were perfectly healthy.—*Allgemeine med. Central-Zeitung*, July 27, 1881.

# THE MEDICAL RECORD:

## A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., Editor.

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## THE QUESTION OF MALPRACTICE IN THE CASE OF THE LATE PRESIDENT GARFIELD.

ALTHOUGH so much has been said concerning the surgical and pathological aspects of the case of the late President Garfield, the subject is likely, in view of recent developments in the Guiteau trial, to be kept before the public and profession for more extended discussion. Although Mr. Scoville has more or less directly disclaimed malpractice as one of the lines of the defence, yet there are several reasons which make it not improbable that it may be taken up later in the trial.

At present there is no other way of accounting for the detailed manner in which the several points bearing upon diagnosis, treatment, and mortality of the wound were brought out. It would be strange, indeed, in view of all that has been said *pro* and *con* concerning the surgical management of the case, that the counsel for Guiteau should not gather many points supporting such a plea. Whatever may be the course pursued or the line of argument adopted, there will doubtless be ample opportunity for sifting positive statements from mere suppositions, and of bringing to the test of actual demonstration the theories of such as have so freely and so persistently criticised the actions of the gentlemen in attendance upon the patient.

If the plea of malpractice is offered, the principal point to establish will be whether or no the wound was essentially a mortal one. All other considerations, bearing upon diagnosis, treatment, and precise mode of death, will be, obviously, of secondary importance. While the majority of the profession agree that the disastrous result of the case was inevitable, there are not a few medical men who maintain an opposite view. It must be admitted that there is room for an honest difference of opinion, not only regarding the mortality of the wound *per se*, but as to measures which might have been adopted to avert the issue. Many of these views on one side or the other of the question have been quite freely ventilated, not only in the medical journals, but in the daily press, and the end is apparently not yet. As a contribution to the particular part of the subject under consideration, there appears in the current number of the *North American Review* * a series of articles on the surgical treatment of President Garfield, by several distinguished members of our profession.

These authors, although viewing the case from different aspects, give becoming prominence to the pivotal point in the discussion which refers to the actual mortality of the wound.

Three of the gentlemen in question, Drs. Marion Sims, John Ashhurst, Jr., and Dr. John T. Hodgen, are in accord regarding the affirmative of this proposition, while, as might have been anticipated in view of the wide notoriety of his views, Dr. Hammond takes the negative side. The latter gentleman, being the advocate of the minority, quite appropriately heads the list of writers. Without wishing to detract in any way from the intrinsic merits of the article, it is quite safe, from a perfectly impartial standpoint, to say that the anticipations which were with good reason entertained by many regarding the strength of his arguments and the value of his conclusions, will hardly be realized. The distinguished author takes the ground that the wound of the vertebra was not necessarily a mortal one, that the pus-sac connected with the fractured ribs was the sole cause of the septicæmia, and that death was probably due to heart-thrombus.

In support of the first proposition, a few quotations are made from surgical authorities to show that patients may recover after gunshot wounds of the vertebra. Exceptional as these cases are known to be, there does not appear to be any attempt on the part of the author of the article to prove their similarity in any essential particular with the case of the late President. In view of these insufficient data, it will be a matter of surprise to many that the positive assertion should be risked by him that there was not a single feature, or combination of features, which rendered death inevitable from the wound in the vertebra. As a somewhat astonishing offset to this claim, the pus-sinus is charged solely with causing blood-poisoning, and then quite plausibly blame is thrown upon the attending surgeons for not preventing such a condition of things by earlier and more thorough exploration of the wound. There is hardly a doubt that such an examination of the wound as would be necessary to detect and remove fragments of broken

* The Surgical Treatment of President Garfield. By William A. Hammond, M.D., J. Marion Sims, M.D., LL.D., John Ashhurst, Jr., M.D., and John T. Hodgen, M.D., LL.D. North American Review, Dec., 1881.

rib, might have prevented the formation of the pus-sac, but the particular reasons why such was not done can possibly never be appreciated by any save those who were caring for the case at the time. Allowing for all circumstances that militated against the procedure, there is no questioning, on general principles, the soundness of the practice. Its importance as a plan of treatment is, quite naturally, very much overrated, in connection with the assumption that these fragments caused the burrowing of the pus, and that the pus-sinus was the cause of the septicæmia. It is, however, acknowledged by every one, save this author, that the principal source of septic infection was the wound of the lumbar vertebra. Why the consideration of the latter is ignored, even as an ordinary factor in the final result, can seemingly be explained only on the supposition that the theory of the non-mortal character of said wound would otherwise be quite untenable.

Every one will agree with the author that the mistake in diagnosis was deplorable, but will hardly be ready to believe that any means of more thorough exploration, as advocated by him, would have prevented it. It is quite true that by enlarging the wound the fragments of rib might have been discovered, but it requires something more than a mere assertion to prove that the wound of the lumbar vertebra could be reached by any reasonable exploration (either with the finger or probe), the wound of entrance in the integument being nearly five inches from that in the body of the vertebra. Nor does it appear plain, even if such an examination were possible, how the "approximate location" of the ball could have been anything more than guesswork.

The criticisms regarding the plan of treatment adopted are scarcely becoming in one who never saw the case, and who, unfortunately perhaps for the patient, never had an opportunity of taking into account attending circumstances. And here we come back to the error of diagnosis regarding liver wound, which necessitated a fear (groundless, as now proven) of peritonitis. It is claimed by Dr. Hammond that in consequence of this erroneous hypothesis the patient was subjected to a rigorous antiphlogistic treatment, doubtless meaning the small doses of morphia given to quiet pain. It is quite as difficult to understand why this should result disastrously as that the liability to the occurrence of pyæmia should be increased thereby. It is not easy to understand why the alarming weakness during the first ten hours was occasioned by any excessive and uncontrolled hemorrhage. Certainly none such is reported to have occurred, at least none that could have been controlled by the surgeon. The internal hemorrhage, which doubtless occurred from the injured splenic artery, was obviously beyond reach.

It is hardly necessary to say at this late day that the President suffered from septicæmia, that possibly the final rupture of the traumatic aneurism was caused by his ill-nourished condition, and that death was the result of internal hemorrhage; but our author makes a somewhat startling departure by claiming the possibility of the bursting of the sac by the injection of the embalmer, and that death probably was due directly to the formation of a heart-thrombus, said thrombus having been washed out of the heart also by the injection. As a simple theory it is strikingly ingenious, but as a tangible proposition markedly absurd.

Strangely enough, he maintains that there is no well-supported evidence that the splenic artery was touched by the ball. But this statement will hardly be considered as offsetting the assertions of gentlemen who studied the specimens at the time of the autopsy, and, subsequently, who discovered the opening directly in the track of the ball, and who were able to account for the injury to the walls of the artery in no other way. The question as to whether the aneurism was formed immediately after the infliction of the wound or subsequently, can never be intelligently discussed save by those who have actually seen the specimens.

We have reviewed at some length the statements and opinions of this writer, for the reason that they are generally supposed to represent the strong side of criticism as to the proper management of the President's case. That they fall far short of proving that any really essentially different method of treatment than that adopted would have resulted more favorably is, fortunately for the profession, quite apparent. He does not even claim that the ball could have been found, much less extracted; that any system of drainage for the wound of the vertebra could have been established, thus removing the principal if not the sole cause of the septicæmia, and thus possibly counteracting that general depraved condition of system which caused the rupture of the aneurism.

Contrariwise, the other contributors to the symposium in the *Review* frankly acknowledge that the wound was essentially a mortal one, that the error of diagnosis was, under the circumstances, unavoidable, that the treatment was in accordance with accepted principles in surgery, and that, in reality, nothing more could have been done to have prolonged the life of the lamented sufferer.

It may not be out of place to refer, in this connection, to a communication upon the same subject, which will appear in our next, from a distinguished surgeon criticising the case from other standpoints, more especially such as refer to the finding and extraction of balls in what are generally believed to be inaccessible parts of the body.

### DOES VACCINATION PROTECT?

NOT long ago an International Anti-Vaccination Congress was held in Europe. Few of the delegates were medical men, and none, we believe, had any scientific eminence. The proceedings, therefore, would not deserve notice, but for the fact that by reason of the presence of certain flabby-minded counts and barons, and by the wide telegraphing of certain most audacious "conclusions," much attention was attracted.

Two prominent dailies of this city have lately published editorial comments upon the congress. The good faith and intelligence of the anti-vaccinationists is assumed without question, and the doubt is expressed whether, after all, vaccination is not a mistake, and finally the query is put whether there is anything whatever certain in medical science.

It is becoming somewhat tiresome to have to reiterate the truths about vaccination. And it will sometimes occur to us that the best way after all would be to leave the question alone, and let the people find out the facts for themselves. Why should the doctor worry himself? If the people do not and will not believe in vaccination, why not drop our quills, and, having vaccinated ourselves and families, let the disease work away in its old-fashioned eighteenth century style. In 1721, one-half of the city of Boston lay sick with the small-pox. Would not the return of such a visitation be better than any pamphlets or statistics?

But both humanity and a pride in our profession forbid that anti-vivisection arguments should go unnoticed, when popular ignorance is plainly being imposed upon by them.

It should be understood, therefore, in the first place, that there is no one thing upon which the whole medical profession more unanimously agree than that vaccination affords a protection against small-pox.

We present here a very few of the facts and figures upon which this universal agreement is based. It should be remembered, however, that aside from statistical proof, nearly every physician, at some time during his life, gets personal evidence of the efficacy of Jenner's discovery.

Previous to the introduction of vaccination, the annual mortality from small-pox throughout Europe was about three thousand to every million inhabitants. During the forty years subsequent, the mortality from the same cause was reduced in Sweden to 158 per million; in Westphalia to 114; in Bohemia, Moravia, and Austrian-Silesia, to about 200; in Copenhagen to 286; in Berlin to 176; in England to 200.

In 1853, the Epidemiological Society received two thousand letters from medical men affirming their belief, from personal experience, in the protective power of vaccination. Dr. Simon obtained similar answers from five hundred and forty eminent English and foreign physicians out of five hundred and forty-two to whom letters were addressed.

One observer, Marshall, has shown that among 757 persons exposed to small-pox, 231 had been vaccinated, and of these latter only 27 took the disease. All the remainder, except seven, were infected.

In 1871, an anti-vaccination excitement was fomented in England, and Parliament undertook to investigate the question. A large committee was appointed and testimony taken from every quarter. The result was an overwhelming refutation of the points claimed by the anti-vaccinationists.

In the Franco-Prussian war, an epidemic of small-pox arose among the unvaccinated inhabitants of Brittany. It spread among the French soldiers and destroyed 23,000 of them. The Prussian army, which was frequently and extensively exposed, and was larger than the French, lost only about 250 persons by the disease. The Prussian army was thoroughly vaccinated, the French was not. In the whole Prussian army for twenty years, though often exposed, only four fatal cases of small-pox occurred among the revaccinated.

The conclusions to be drawn from such figures as the above are affirmed by every health board in the country and Europe, and corroborated by the personal experience of all medical men who have a wide acquaintance with the disease. There is not, we venture to say, a small-pox hospital in the civilized world where the belief in the protective power of vaccination does not exist. The most active champions of vaccination, from Jenner, eighty years ago, to Marson at the present day, have been persons who have had the widest practical knowledge of the disease. It is the closet philanthropists, who sit in their houses and study figures, who decry vaccination.

In our own city of New York, the most positive evidence of the protective power of vaccination has been obtained almost daily by the Health Board.

We published only a few weeks ago some facts regarding the small-pox at Pittsburgh, which would alone be quite sufficient to justify vaccination.

As regards the dangers of the method, they are inconceivably trivial when compared with the danger from small-pox. In one year of the eighteenth century this disease destroyed one-tenth of the population of France. In fifty years, one-third of all the children under ten died from the same cause which also during twenty years killed one-eleventh of the population of Copenhagen. For every death there were two or three other cases of sickness. Two-thirds of the pauper blind in England were made so by small-pox.

Such things are impossible now, in the opinion of the entire medical profession; but a return to them would be easy if it adopted the views of the anti-vaccinationists.

There are a few things which have to be borne in mind when arguing for vaccination:

*First.*—Vaccination is protective only when the virus is good, and has entered and affected the system.

*Second.*—There is a very small number of persons who will take small-pox if exposed, whether they have been vaccinated or not. If vaccinated, however, most of these will have the disease less severely.

*Third.*—Vaccination protects in most cases only for a certain period of years, and revaccination is necessary.

*Fourth.*—Vaccine lymph may possibly deteriorate after passing through the human system many times. This deterioration of humanized lymph has probably taken place in England, and perhaps elsewhere in Europe.

*Fifth.*—Small-pox varies in malignancy with the epidemic. There is no evidence, however, to prove that small-pox is any less malignant now, on the whole, than it was eighty years ago.

The above facts have to be considered in passing judgment upon the so-called statistics of anti-vaccinationists.

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PROGRESS OF WORK OF THE STATE BOARD OF HEALTH.

THE State Board of Health has forwarded to us a series of circulars and other documents issued within the past six months, by which the progress and activity of its work is, in a measure, indicated.

Since our last notice of the Board, it has been engaged in three important investigations. These are in regard to the hygiene of schools, the prevalence of malaria throughout the State, and the adulterations of food and drugs.

A circular has been drawn up which contains a list of sixty-eight questions regarding the hygiene of public schools. These questions involve the subject of sun-lighting, ventilation, heating, water-supply, site and structure of the school-houses, school-hours and physical health of pupils, the relations of the sexes, and the prevailing complaints and sickness. If answers are given in any fulness to these inquiries, a great deal of most important information will have been obtained. It is certainly the duty of the medical profession, so far as it is called upon, to help the State Board in this investigation.

The same obligation exists in regard to the Board's inquiries into the prevalence of malaria. The circulars upon this subject embody some thirty questions, and are accompanied by a blank sheet upon which diagrams of any particularly malarious region may be drawn.

The investigation into the purity of food and drugs has now been going on for some time, and the State may soon expect some definite reports. The Board has issued, in form for distribution, the law to prevent the adulteration of food and drugs as defined by the last Legislature. It may be useful to the physician to know exactly what is the legal meaning of "adulteration of drugs," and we quote here, therefore, the reading of the law on this point.

A drug is deemed adulterated within the meaning of the act:

"*First.*—If, when sold under or by a name recognized in the United States Pharmacopœia, it differs from the standard of strength, quality, or purity laid down therein.

"*Second.*—If, when sold under or by a name not recognized in the United States Pharmacopœia, but which is found in some other pharmacopœia or other standard work on materia medica, it differs materially from the standard of strength, quality, or purity laid down in such work.

"*Third.*—If its strength or purity fall below the professed standard under which it is sold."

A valuable document has been drawn up embodying in outline the sanitary orders and regulations recommended by the Board for adoption by local sanitary authorities. Under eleven different heads, the various measures to be taken for the preservation of life and health are succinctly and clearly indicated.

By this and other means the State Board seems to be striving to make the work of local sanitary organization as easy as possible.

It is a slow and difficult process to impress upon the people the value of sanitary organization. But there are now indications of unquestionable progress in this direction, thanks to the assiduous efforts of a few enthusiastic workers.

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GUITEAU'S TRIAL.

AT the present writing the plea of insanity in the case of Guiteau has been formally offered by the counsel for the defence. The points brought out thus far are sufficiently familiar to the profession to need no special reference. The line of argument is well taken, and the various eccentricities and insane freaks are presented with becoming directness. The life history of the assassin is made quite interesting by Mr. Scoville, while his associate counsel, the prisoner himself, varies the proceedings by constant and irrelevant interruptions. The latter are calculated to make their due impression upon the jury, and it is barely possible that their full significance in such a direction is appreciated by the prisoner. Altogether the trial on the alleged plea promises to be an unique and interesting one. In our next issue we hope to review the bearing of some of the points which may in the meantime be brought out.

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LEPROSY IN MARYLAND.—The *Maryland Medical Journal* reports a case of leprosy occurring in a native of Maryland who had never been beyond the limits of the State. There is no evidence of contagion.

## Reviews and Notices of Books.

THE MEDICAL RECORD VISITING LIST FOR 1882. New York: William Wood & Co.

NOTHING seems to us nearer perfect in the line of visiting lists for the practitioner in his daily rounds than this concise, compact, and elegant little book. Not only is the ruling so arranged that a due record can be kept of a practice averaging from thirty to sixty patients per week, but the prefatory text comprises a most judicious selection of such tables and methods as are likely to be often referred to. It is of convenient pocket size, is elegantly bound, is clearly ruled, contains paper suitable for pen or pencil, and has the approved flap-cover. It well deserves its reputation as a general favorite.

A PRACTICAL TREATISE ON HERNIA. By JOSEPH H. WARREN, M.D., Member American Medical Association, etc. Second and Revised Edition. Boston: James R. Osgood & Co. 1882.

THE present second edition of Dr. Warren's essay on hernia will be found more satisfactory than the first, because it is more essentially a general and practical treatise than, like its predecessor, an enthusiastic advocacy of a single method of operation. Heaton's injection "cure" (?) is, however, still conspicuously pushed to the foreground. But the other methods of treating hernia are, at least, considered with sufficient detail to make the work of real value to the physician. Among the newly added chapters, that on hydrocele and varicocele might, without detriment to the book, have been entirely omitted, as it contains but an inadequate compilation of a highly important subject. Three beautifully executed heliotype plates form a convenient and useful anatomical addition to the book.

A MANUAL OF PRACTICAL NORMAL HISTOLOGY. By T. MITCHELL PRUDDEN, M.D., Director of the Physiological and Pathological Laboratory of the Alumni Association of the College of Physicians and Surgeons, New York, etc. New York: G. P. Putnam's Sons. 1881.

AT the present rate of increase in the preparation of works on histology, a medical Vennor might readily compute the probable time which must still elapse before every teacher of this branch of medicine will have written at least two books on the subject. The elementary manner in which the little volume before us deals with histology will recommend it to such students only as are studying under an instructor, who may be constantly appealed to for more complete information and fuller details. Doubtless a familiarization with its contents will enable the student to profit more by a systematic laboratory course than would otherwise be the case. Judged from such a point of view, Dr. Prudden's little manual has its *raison d'être*, but apart from that it need scarcely have been written.

A TEXT-BOOK ON PHYSIOLOGY. By M. FOSTER, M.A., M.D, F.R.S., etc. Second American, from the Third and Revised English Edition. With Extensive Notes and Additions. By EDWARD T. REICHERT, M.D., Demonstrator of Experimental Therapeutics, University of Pennsylvania. Philadelphia: H. C. Lea's Son & Co. 1881.

IT is a pleasing sign to observe the appreciation of so thoroughly scientific a work as Foster's "Physiology" by the American student—an appreciation which is amply proven by the fact of the exhaustion of the first American edition within a twelvemonth. In its present shape the work will be found thoroughly up to the times, recent advances in physiology having been duly noticed by the American editor. The only criticism which we have to offer is, that Dr. Reichert insists on substituting the somewhat misleading compound "physiological anatomy" for what is, by common consent, called histology; and further, that the histological details are often so meagre as to seem almost superfluous. The student should either be referred to some more complete manual of histology for even an elementary knowledge of the minute structure of tissues, or else he should have a sufficient array of facts presented, which would make such reference needless.

## Reports of Societies.

### NEW YORK SURGICAL SOCIETY.

*Stated Meeting, October* 11, 1881.

DR. H. B. SANDS, PRESIDENT, IN THE CHAIR.

#### HYPERTROPHY OF THE RIGHT SIDE OF THE NOSE.

DR. LITTLE presented a patient, a woman twenty-five years of age, with the following history: About six or seven yeas ago she noticed for the first time that the right side of her nose was larger than the other. Since that time the deformity had gradually increased, and during the last year its growth had been much more rapid than previously. He had not been able to obtain any evidence that it was of a congenital origin. It was not painful, nor did handling give rise to pain. It had a feel somewhat like a nævus. The question of the propriety of an operation was submitted to the society.

#### TUMOR OF THE LOWER JAW.

Dr. Little also presented a boy ten years of age, who a year ago had a diseased tooth in the lower jaw on the right side, which was followed by a swelling that had gradually increased in size. The tumor had been hard and insensible until within the last three or four days, when it began to be sensitive upon pressure. There had been one or two small openings in it, which had healed. His first opinion was that it was a dentigerous cyst. Dr. Little then referred to a case of dentigerous cyst seen in Burlington, Vt., two years ago, in which he opened the sac and found a portion of a tooth at the bottom. Last year he saw a patient in whom two or three cysts of like character had formed, but no tooth was found. In the present instance the swelling had increased to such an extent as to render it somewhat difficult to open the mouth. He was not fully satisfied of its character, but thought it probable that it was a cyst caused by a diseased tooth. There had been no inflammatory symptoms in the earlier stages.

DR. A. C. POST thought that in the first case the deformity could be relieved by removing a wedge-shaped portion of tissue. It could be done with perfect safety, and probably a free incision would arrest the tendency to further growth.

DR. BRIDDON asked if there was any history of neurosis in the case.

Dr. LITTLE answered that he had not been able to

obtain such a history. Some time ago he had a case of thickening of the upper lip, and he removed a portion of tissue with a favorable result.

Dr. Briddon asked concerning the second case, if it was not unusual for a dentigerous cyst to attain to the size of the tumor in the present case.

Dr. Little remarked that the tumor in the case seen in Burlington occurred in an adult, and probably was not more than half the size seen in the patient exhibited. In that case there was an expansion of the bone, especially its outer layer.

Dr. Schönborn suggested that the tumor was a sarcoma of the jaw.

The President suggested that light might be thrown upon the case by harpooning and examining the tissue with the microscope.

Dr. Markoe thought that the tumor did not have the feel which a dentigerous cyst usually gives. It was irregular in shape, and suggested the opinion which Dr. Schönborn had already given, namely, that it was sarcomatous in character.

Dr. Howe referred to a case which appeared at his clinic at the Bellevue Hospital Medical College. The tumor was hard and smooth, and extended upward and involved part of the upper jaw. There was no fluctuation perceptible at any point. The history of the case seemed to point toward sarcoma. He had some thoughts of removing the tumor with the jaw, but waited for further developments, and on a subsequent day, when the patient appeared, there was fluctuation all through the enlargement, and it was found that the child had had a chill. The softened mass was opened, and it was found to contain nothing but pus. It was doubtful whether the disease originated in the periosteum or in inflamed glands. All that was found at the operation was pus and denuded bone.

### DEFORMITY OF THE HANDS THE RESULT OF CICATRICIAL CONTRACTION FOLLOWING AN EXTENSIVE BURN.

Dr. A. C. Post narrated a case which he illustrated with plaster casts, representing the appearance of the hands of a man twenty-four years of age, who was a native of Kentucky and came under his care during the last summer. About two years ago he was exposed to an explosion of gunpowder, and his hands and forearms were severely burned. The cicatricial contraction which followed the burn had distorted the hands and fingers as represented in the models. On the left hand the little finger was dislocated at the articulation between the first and second phalanges, and bent at an angle a little less than a right angle, perhaps eighty degrees, the first phalanx being drawn back by muscular contraction, and the others bent into the palm. The ring and index fingers, were bent at an obtuse angle by cicatricial bands, and the thumb was drawn toward the little finger by a firm cicatricial band passing transversely across the middle of the hand. There were some cicatricial bands which webbed the fingers together posteriorly. On the other hand, similar cicatricial bands contracted the palm of the hand, adducted the thumb, drew forward the little finger so that its last phalanx was dislocated and bent at a right angle, and immovably fixed. This patient came under his observation in last May, while in attendance at the American Medical Association in Richmond. He was advised to come to New York, where he came, and entered the Presbyterian Hospital on the 2d of last June. On the 6th day of the same month Dr. Post divided the cicatricial bands by multiple incisions, so as to separate the tissues widely, and where the fingers were dislocated he performed exsection of the distal end of the proximal bone of the joint at which the dislocation occurred, and removed about one-fourth of an inch, thus enabling him to bring the fingers into place. The hands were secured by felt splints, stiffened by hoop iron behind; the fingers were separated from each other, and confined in a position opposite to the deformity. On July 30th he performed certain supplementary operations, as the wounds had all healed and there was still considerable contraction across the palm of the hand. He then divided the webs on the posterior part of the hands, cut up the cicatricial bands on the palmar surface into rhomboidal segments, applied lint moistened with carbolized oil, and the wounds healed readily. There was scarcely any suppuration, and the wounds were left six days before the dressings were changed, and when they were removed it was found that a good deal of progress had been made toward healing. The patient left the city on August 24th, and the casts presented represented the greatly improved appearance of the hands at the time that he was discharged from the hospital. He was also getting very good use of the fingers. He was directed to keep the splints adjusted during the night, and to resort to active and passive motion freely during the daytime.

There was one interesting feature in these cases, and that was the condition of the thumb. The distal phalanges of the thumbs were drawn forcibly backward, and entirely by muscular action. There was no cicatricial action behind to aid in producing that deformity. In connection with this case he referred to a case under treatment during last summer. A boy eight or nine years old received a fall by which he fractured the bones of one of his forearms at about the middle. It was a simple fracture, which had united before he had observed him; but a structural change had taken place in the middle of the forearm to such an extent as to cause contraction of the fingers so that they were hooked, and the thumb was drawn across the palm of the hand and almost entirely immovable. Dr. Post made an incision across the commissure of the thumb. Although there was no cicatricial contraction, there was some induration and firm resistance of the tissues, until he reached the tendon of the long extensor of the thumb, which he divided, and then was able to bring the thumb into proper position. He made a longitudinal incision over the entire mass of indurated tissue in the forearm, separated the edges, passed the director under the superficial layer of muscles and divided them, and that gave considerable motion. He was then able, by applying an apparatus, to bring the fingers into a very good position. He had not obtained much motion, but the deformity had been very much diminished. There was some motion in the fingers, which probably would improve, although he did not think that the patient would ever have the full use of the hand.

Dr. Markoe thought the interest in Dr. Post's case was in the fact of the method adopted, namely, open and multiple section. He thought that Dr. Post's cases showed that the method was a safe one, but still the question remained, to what degree was the tendency to contract overcome by the operations.

Dr. Post replied that there was positive advantage in making several small incisions instead of one very large chasm, and the granulations were easily kept down by bandages and the occasional applica-

tion of nitrate of silver. A number of parallel incisions, leaving small spaces to be filled by granulation, answered a much better purpose than one incision making a wide chasm. He had one case in which he had operated more than twenty years ago, and he had been able to follow it ever since. It was a case of extreme contraction; the back of the hand was brought into close contact with the posterior surface of the forearm, and was the result of a burn. In that case there had been no disposition whatever to contract since the completion of the treatment following the operation. The child had grown to be a woman, and she is now able to perform with facility upon a musical instrument. A disposition to contract had not existed in other cases which he had had under observation.

LATERAL DISPLACEMENT OF THE BLADDER.

DR. BRIDDON narrated a case as follows: On the 28th of July he saw a patient, a boy nine years of age, in consultation with a physician, at Whitestone, L. I. The messenger told him that the case was supposed to be one of intestinal impaction, and from what he could gather he was led to conclude that it was probably a case of perityphlitis. The attending physician, on his arrival, told him that he was not certain about the nature of the case; that he was called to see the boy about twelve days previously, and found him suffering from acute pain, located in the right inguinal region, which was so severe in character that it did not readily yield to morphine, used hypodermically and in very large doses. When morphine was omitted the pain was so intense that the cries of the patient could be heard at some distance. During the last five days, however, the pain had shifted from the inguinal region to the epigastrium, and had been accompanied with fever and abdominal tenderness. On examination, it was found that the condition of the patient was very unfavorable. He had sordes upon his gums, teeth, corners of the mouth; his tongue was dry and brown; his pulse could scarcely be felt; his pupils were contracted, and the patient seemed to be almost moribund. His position was the dorsal decubitus, with the right thigh slightly flexed upon the pelvis. There was dulness in the right inguinal region, extending upward as high as the umbilicus, but not passing to the left of the median line. It was easy to detect fluctuation over this space, but there was no perceptible enlargement of the abdomen. On introducing the index finger into the rectum, Dr. Briddon discovered nothing abnormal, and bimanual manipulation brought the finger in the rectum in contact with the fingers of the other hand, placed upon the outside, over the pubis. He passed an aspirating needle into the midst of the region of dulness, about one inch above the centre of Poupart's ligament, and removed a fluid which looked exactly like urine, but which had neither a urinous odor nor taste. It tasted decidedly bitter. He then examined the rectum again, and found nothing more than had been found at the previous examination. The patient had had no trouble whatever in passing urine, and the mother stated that he had passed a tumblerful of water that morning without difficulty. He then made an incision two inches long, parallel with and one inch above Poupart's ligament, the centre of which was over the middle of the ligament. The incision was carried down to the abdominal fascia, which was opened with the finger, and no purulent deposit was found. The external iliac artery was exposed, and could be seen and felt. By making pressure above, he was enabled to force downward the fluctuating tumor, so that it bulged, and could be seen in the incision, and he passed a needle into it and obtained fluid of the same character of that obtained by the aspirator. He then attempted to pass a No. 12 silver catheter, the only one he had with him, and was unable to do so, even after dividing the meatus. It was evident that this collection of fluid was the cause of the pain, and he therefore made an incision into it, passed his finger in and found that it was the laterally distended bladder. The peritoneum was not opened at all. Keeping his finger in the opening in the sac, he sent the doctor for a small catheter, which he succeeded in introducing, and demonstrated that the tumor which he had opened was the bladder. The viscus occupied the right side of the pelvis and inguinal region, and it was evident that the peritoneum had been lifted up by it. He introduced a large-sized drainage-tube into the bladder, stitched it into the abdominal wound and left the child, with considerable misgivings as to the ultimate result. On August 2d he received a letter from the doctor, who stated that the patient was improving; that the temperature was normal; that he suffered but little from pain; that he was taking nourishment freely, and was bright and cheerful. The urine was passing through the wound. On the 23d of August he received a second letter from the doctor, in which it was said that the patient did well until the wound had almost entirely united, when the bladder became distended, and the patient again complained of sharp lancinating pains in the epigastrium, a burning sensation in the penis, and had a frequent desire to urinate, without being able to pass any water. The doctor attempted to pass a soft catheter, but was unable to do so without an anæsthetic. It was then found necessary to dilate the wound, and when this was accomplished by his medical attendant sufficiently to allow a free discharge of urine, the boy was immediately and completely relieved, and since that time it had been necessary to keep the fistulous opening patent by the aid of bougies. What the nature of the pain, in the early history of the case, was, Dr. Briddon was unable to say. There was no dysuria or vesical tenesmus, and the attention of the physician and the parents had not been drawn to the bladder. From the data which he had been able to obtain, he doubted whether the condition of the bladder was the cause of the original pain from which the boy suffered.

DR. A. C. POST thought that if the severe abdominal pains existed when the sinus was closed, and were relieved by opening it and allowing a free escape of urine, it was a fair inference that the retention of urine was the cause of pain.

DR. BRIDDON said that Dr. Post's reasoning was good, but he did not see how a boy could suffer so much pain without at some time directing the attention of those who were about him to the condition of the bladder.

DR. POST referred to a case in which, early in his professional life, he had an opportunity to make a post-mortem examination. The child died with abdominal pain and swelling, and the report was that the urine had passed freely all the time, and yet he found the bladder distended up to the umbilicus, and the so-called free passage of urine had simply been an overflow. The autopsy was interesting, as showing that abdominal pain and swelling, and death, was due to the distention of the bladder from retention of urine. He had seen similar cases oc-

curring in old men. He had also seen an analogous condition of the bowels attended by annoying diarrhœa, abdominal swelling and pain, all dependent upon impaction of the colon. These symptoms had been promptly removed by the use of cathartics and enemata, which completely emptied the bowels.

(To be continued.)

## NEW YORK ACADEMY OF MEDICINE.

*Stated Meeting, November* 3, 1881.

FORDYCE BARKER, M.D., LL.D., PRESIDENT, IN THE CHAIR.

THE Librarian reported that 231 bound volumes, 44 unbound, 888 pamphlets, and 2,049 medical journals had been presented to the Academy since his last report.

Dr. Purple presented three rare books received from Dr. Isaac E. Taylor—rare on account of their age and inability to duplicate them, as well as their intrinsic value.

DR. T. A. MCBRIDE then read a paper on

### THE EARLY DIAGNOSIS OF CHRONIC BRIGHT'S DISEASE.

The author first designed to consider only that form of the disease which began insidiously, progressed slowly, and gave the cirrhotic, granular, or atrophic kidney; but there were certain cases of chronic parenchymatous nephritis, and also certain other cases of chronic diffuse nephritis, which began equally as insidiously, and progressed as slowly as did the form of the disease in which the atrophied kidney was found.

Most of the signs and symptoms of the atrophic kidney were common to the other chronic forms of Bright's disease; but in his paper Dr. McBride studied:

*First.*—Those cases in which the symptoms and signs present were well-marked—cases which had existed for some time, and in which extensive anasarca and œdema had appeared.

*Second.*—The class of cases in which no symptoms appeared until the patient received some injury, or was attacked by some disease, as pneumonia, tonsillitis, etc.

*Third.*—The class of cases in which the disease, in patients heretofore supposed to be healthy, was ushered in with a convulsion, coma, fever, and head symptoms, etc.

*Fourth.*—A series of six cases in which lithæmia terminated in chronic Bright's disease.

Lastly, he called attention to the probable fact that chronic diffuse disease of the kidneys, and of the arteries, was produced most commonly by the circulation and elimination of certain excrementitious material present in the blood, and that fact had its value in making a diagnosis.

The *subjective* symptoms of chronic Bright's disease were: headache (frontal, vertical, occipital), deafness, amblyopia, dyspnœa (spasmodic, Cheyne-Stokes, heart-disease, etc.), dyspepsia, nausea, vomiting, etc.

The *objective* symptoms were: 1st, pallor of the skin and mucous membranes, baldness, gray and dry hair; 2d, dry skin; 3d, permanent pulsating tortuous temporal arteries; 4th, eye of Bright's disease; 5th, subconjunctival œdema; 6th, odor of the breath; 7th, emaciation; 8th, œdema of the legs (present in health); 9th, condition of the urine: odor, frothing, frequency of passing it, quantity in twenty-four hours, specific gravity, color, albumen, tube-casts; 10th, increased arterial tension; 11th, hypertrophy of the heart; 12th, endarteritis chronica; 13th, coma and convulsions.

#### THE URINE.

With reference to the urine, it was a general fact that the longer the disease continued, the greater would be the quantity excreted. Attention had been directed by Dr. Alonzo Clark in 1861, to the fact that the urine was inodorous.

In chronic parenchymatous nephritis the quantity of urine passed in twenty-four hours was usually above the normal, and the greater the quantity the less frequent were the returns to the normal. In chronic diffuse nephritis the quantity of urine was apt to be small at first, then become increased, and then diminished, and perhaps suppressed; but in general the longer the patient lived, the larger the quantity excreted.

Quotations were made from Bartels and Grainger-Stewart, who quoted from Dickinson, to the effect that, in most chronic cases, whether the Bright's disease succeeded an acute attack or was a chronic process primarily, the quantity of urine excreted in twenty-four hours was increased. One should bear in mind, however, the fact, in taking the quantity, that any cause which led to diminution in arterial tension, any cause which led to over-distention of the right side of the heart, might lead to reduction in the quantity of urine to the normal, or even below. A careful examination of the urine with reference to the quantity passed in twenty-four hours, was an important aid in diagnosis.

The *specific gravity* of the urine in chronic parenchymatous nephritis did not differ much from normal—usually from 1020 to 1025; might be as high as 1030 to 1035, or as low as 1005 to 1020.

In chronic diffuse nephritis the specific gravity was regularly below the normal; usually below 1020, frequently 1010 or under.

Numberless observations, almost, had convinced him that, in extreme cases of this variety of kidney disease, although the quantity of urine might be small, the specific gravity could not rise above 1009 or 1011. Here, again, the general statement held good, that the longer the disease existed, the lower would be the specific gravity of the urine; but, in making the estimation in any stage of the disease, it was necessary to consider those causes and conditions which might produce an increase in the specific gravity.

The *presence of albumen* in the urine was next considered, and reference made to tests, with the condition necessary in order to render them reliable. It was also especially important to bear in mind the fact that albumen might be temporarily present in apparent health, and in connection with several diseases. It was frequently found in the urine of patients suffering from lithæmia, although the excretion might have a high specific gravity and be loaded with urates.

Dr. McBride also directed attention to some of the theories offered in explanation of the temporary presence of albumen in the urine in health. If, however, with proper care in testing, he found albumen; if there was a strong hereditary tendency to Bright's disease; if the patient had high arterial tension, perhaps one of the diseases resulting from high tension, or one of the diseases so often associated with Bright's disease; or if there was present a disease to which Bright's disease was often second-

ary, he believed that he was justified in stating that the albumen was a symptom of beginning structural disease of the kidney.

The *presence of casts* in the urine was not so important a symptom as was at one time supposed. It was doubtful whether casts were ever obtained from beyond the down-looping tubes of Henlé, although cast-material might be forced through the loops from the labyrinth of the kidney.

Dr. McBride then directed attention to

INCREASED ARTERIAL TENSION,

and regarded it as a most constant and valuable symptom of Bright's disease, but especially of the chronic forms. It was not entirely constant and continuous, but when absent an explanation could usually be afforded. To appreciate the symptom, much experience and constant practice were required, unless aided by instruments of precision, such as the sphygmograph, etc. In extreme cases the temporal arteries were hard and tortuous, and apt to present visible pulsations, and the radial artery felt like a tendon, or like the vas deferens.

The sphygmographs of Marey, Mahomed, and Pond were then exhibited and their practical use explained. The best sphygmograph in use was Brondel's.

HYPERTROPHY OF THE HEART.

Hypertrophy of the left ventricle of the heart was shown to be a very constant symptom. With malnutrition, the hypertrophy did not occur. Its absence might also be explained by the patient's general nutrition and the external conditions to which he was subject, and the same factors would influence the course and issue of the renal disease.

*Endarteritis chronica* was a very common symptom.

Certain diseases were associated with or were common to Bright's disease. Pneumonia occurring in persons over forty-five years of age was very frequently associated with Bright's disease. Cerebral hemorrhage in a person over fifty years of age was almost invariably associated with the small kidney. Peritonitis, when the common causes were excluded, was very commonly due to Bright's disease. Pericarditis, pleurisy, and cirrhosis of the liver, also might be associated with chronic Bright's disease.

AGE.

Acute Bright's disease occurred most frequently between the ages of one and forty years; chronic parenchymatous nephritis between the ages of thirty and sixty years; and chronic diffuse nephritis (small kidney and large white) between the ages of forty and eighty years.

Dr. McBride then spoke of

HEREDITARY INFLUENCE,

and quoted from Delafield to the effect that, while the disease might not be transmitted from father to son, it was very often found that a number of cases occurred in the same family. The disease also seemed to have a certain relation to chronic pulmonary phthisis; that is, some of the members of a family in which phthisis existed did not have consumption, but suffered from chronic diffuse nephritis. The sudden occurrence of *convulsions* might be the first symptom of the disease.

*Dyspepsia*, so frequently associated with chronic Bright's disease, was sometimes a cause and sometimes a consequence. Pain and uneasiness after taking food, flatulent distention of the bowels, constipation and diarrhœa alternately, were frequently attended with turbidity of the urine, small quantity, high colored, loaded with urates, which, after a time, gave way to a more copious discharge of urine, with low specific gravity, albumen, and granular casts. That view, entertained by Murchison, who quoted from George Johnson, was announced by Parks in the *Medical Times and Gazette* in 1854.

In the early diagnosis of chronic Bright's disease, the observer must give due attention: 1st, to age, hereditary influence, and other subjective symptoms; 2d, to objective symptoms, particularly the changes in the urine, increased arterial tension, diseased condition of the blood-vessels, cardiac hypertrophy; 3d, to the associated diseases or complications of Bright's disease; 4th, to the diseases to which chronic Bright's disease occurred secondarily; 5th, to the previous condition of the patient as to whether he had suffered from lithæmia, lead-poisoning, syphilis, or other poisons.

When that ground had been intelligently covered, the diagnosis of chronic Bright's disease could be arrived at in its earliest stages, and perhaps be appreciated while yet it had a functional existence.

'Dr. Austin Flint said that Dr. McBride's elaborate and comprehensive paper involved questions of great importance, and he would be pleased to have them discussed by deliberate papers on the practical part of the subject. The author of the paper had directed attention to those points which might lead to presumptive diagnosis, even before the changes in the urine and other phenomena which established the positive diagnosis were developed, a very important part of the subject. On the other hand, cases had been under Dr. Flint's observation in which a trace of albumen and casts in the urine had proved to be transient, and, although a great deal of uneasiness existed at the time lest they were the indications of structural changes, the symptoms had disappeared, and the persons had remained healthy. Another important aspect was the fact that in some cases only one uræmic effect was manifested prominently: for example, a frequently recurring intense cephalalgia.

Hypertrophy of the heart without valvular lesion he regarded as presumptive, almost conclusive, evidence of the existence of the cirrhotic kidney. Dyspnœa might be the only prominent symptom, and without any evidence whatever of pulmonary or cardiac affections furnished by physical examination of the chest. Again, cases presented themselves in which gastric symptoms only were present.

When the uræmic manifestation was thus developed in a single direction, there was great liability to errors in diagnosis.

Another interesting question in connection with chronic Bright's disease was the degree of tolerance exhibited in some cases.

Dr. Delafield thought there was a certain degree of danger in allowing ourselves to be influenced too much by the views and observations of English authorities. It was important to keep in mind the conditions under which diseases observed in England were somewhat different from what existed in this country. In England, the character of the climate, the race, the food, and the drinks, gave rise commonly to certain conditions which, indeed, were met with here, but not usually to anything like the same degree and extent as there. In England, the functional disorders of the liver, lithæmia and its attendant symptoms, the condition of high arterial tension, a very large amount

of hereditary gout, and the disposition which the climate gave to rheumatic diseases, all those produced, in a large proportion of the population, a certain train of symptoms; and besides that, the fact also that chronic diffuse nephritis was very common in England, as it is common in other temperate climates, the association of those two separate conditions had led English observers into a somewhat local way of putting together two factors which were not necessarily connected with each other. Because they had found in the same person the symptoms mentioned as belonging to functional disturbances of the liver, etc., and chronic Bright's disease, especially the atrophic form, they had mated the two conditions together, and Dr. Delafield thought that a great deal of confusion had arisen in that way. No matter how good English experience was, to a considerable extent it was local experience, and we should be somewhat careful how we extended it to what was seen here. There was one form of Bright's disease which was, perhaps, the most obscure of all; it was that which existed in those cases in which, for a number of years, there were absolutely no symptoms except loss of health, flesh, and strength. There might be neither gastric, cerebral, nor urinary symptoms; but, after a time the urine showed a slight trace of albumen, and this, perhaps, only after meals or after exercise, and other symptoms followed. The specific gravity of the urine in these cases was usually low from the beginning.

Another important point was the fact, which must be admitted, that the symptoms obtained during life were not entirely dependent upon the lesion in the kidney. We had to admit that the symptoms were due to two things: partly to the lesion in the kidney, and partly to the functional disturbance of the kidney, superadded to those produced by the lesion. For, a patient might die with the most marked symptoms of chronic Bright's disease, and at the autopsy only very slight lesions be found; and, on the other hand, patients died with absolutely no symptoms of Bright's disease, and at the autopsy the most marked lesions of the kidney were found. Besides, there was the ordinary clinical experience, that a patient with kidney-lesion continuously, would, part of the time, give symptoms, and a portion of the time give no symptoms whatever. It must be admitted, therefore, without hesitation, that the clinical symptoms, as met with, were due to something more than the mere lesion of the kidney, and that we had to deal with functional disturbances which were a large factor in the manifestions of the disease. That fact gave some encouragement with regard to treatment. If the symptoms were capable of being modified by changes in the functional disturbances, we might hope to be able to do something in that direction, and thus modify the suffering of the patient.

Dr. W. H. Draper thought that the early diagnosis of parenchymatous nephritis was not difficult, in many cases at least, inasmuch as, in the acute form especially, the case was apt to begin with more or less prominent symptoms which directed attention to the kidneys. He thought that it was with reference to the cirrhotic kidney that we needed means for making an early diagnosis; for, when the disease was diagnosticated, it had, as a rule, already made great progress. He regarded that part of the paper which dealt with functional disturbances preceding the appearance of albumen in the urine, and might precede even marked development of arterial change, as especially interesting, because those phenomena were most important elements in early diagnosis. He did not agree with the suggestion made by Dr. Delafield, that there was a very marked difference between the causes which led to the chronic forms of Bright's disease in this country and in England. He believed that we ate and drank as much, and had as many of those disturbances of the digestive organs which ultimately led to chronic disease of the liver and kidney, in this country as in England. His own experience, for a considerable time, had led him to believe that the functional disorders of the liver, as they were ordinarily described, had a great deal to do with the ultimate development of those changes seen in the arterial system and in the parenchymatous organs, and which terminated in chronic hepatic and renal disease. He had been inclined to believe that the observations of Gull and Sutton, on what they termed "arterial capillary fibrosis," had in their relation to chronic atrophy of the kidney a very important bearing. If their observations were well-founded, the idea suggested by Dr. McBride, that the long-continued irritation of the blood-vessels, by the circulation in the blood of irritant, imperfectly oxygenized nitrogenous matters, constituted the real and the primary element in the development of the atrophic kidney, was not unreasonable.

Another thing which had a tendency to make him believe in the influence of irritants in producing chronic kidney disease, was the fact that he had seen a considerable number of cases of cirrhotic kidney in persons who had been poisoned by lead. So far as that particular form of renal disease was concerned, he believed that Dr. McBride had brought a very important subject to the notice of the profession, namely, that the functional disorders of digestion, especially those which were accompanied by lithæmia, constituted the foundation of a very large proportion of the atrophic changes which occurred in the blood-vessels and parenchymatous organs.

Dr. W. H. Welch spoke of anatomical points which had a close connection with the symptoms and diagnosis of chronic Bright's disease. He called attention to the statement made by Dr. McBride, that some cases of chronic parenchymatous nephritis were insidious in their origin and development. Dr. Welch believed that a true chronic parenchymatous nephritis was a very rare disease, at least in New York, and that the cases which presented during life the symptoms, and after death the gross appearances, usually ascribed to that form of chronic Bright's disease ("large white kidney"), were, in the vast majority of instances, examples of a chronic diffuse nephritis. In his experience he had not failed to find interstitial changes, particularly thickening of Bowman's capsule, combined with the parenchymatous changes in all of these cases. He would not deny the occurrence of chronic parenchymatous nephritis, yet he believed that it was extremely rare, and he thought it quite probable that the cases referred to by Dr. McBride were really cases of chronic diffuse nephritis in which the kidneys presented the gross appearances of the "large white kidney" of English writers.

Another anatomical point was with reference to hypertrophy of the heart. It was a very prevalent view that hypertrophy of the heart was almost entirely confined to the small kidney. But, while it was much more frequently found with the small than with the large kidney of chronic diffuse nephritis, he thought that it was not so infrequent with large kidneys as was generally supposed. Certainly there were cases

in which the symptoms of chronic parenchymatous nephritis were well marked, and in which extensive hypertrophy of the left ventricle existed without valvular lesions; and he also believed that he was justified in stating that, in New York at least, hypertrophy of the heart, in connection with the large kidneys of chronic diffuse nephritis, was not of very infrequent occurrence.

Among the causes which Dr. McBride had adduced to explain the absence of cardiac hypertrophy in chronic Bright's disease, no mention had been made of the influence of waxy degeneration. It had been pointed out that cardiac hypertrophy was absent in all, or nearly all, the cases of chronic Bright's disease where waxy degeneration was an element, and thus it might aid in making a differential diagnosis.

With reference to the relation between disease of the arterial system and the small kidney, there could be no doubt that cases occurred which corresponded to Gull and Sutton's view, but there was not sufficient evidence that all of the cases of small kidney could be brought into that category. The form of arteritis which was present in cases of small kidney was often an obliterating endarteritis, and Dr. McBride, in speaking of endarteritis chronica as a frequent complication of chronic Bright's disease, had left us in doubt whether he referred to this form or not.

In illustration of those cases to which reference had been made, where some unexpected symptom or accident was the first evidence of chronic Bright's disease, Dr. Welch alluded to a case which had come under his observation. A man, not previously suspected to have Bright's disease, died suddenly from hæmatemesis. The autopsy revealed a pore-like opening in the gastric mucous membrane, leading to a miliary aneurism on a branch of one of the gastric arteries which had burst. In that case there was a wide-spread endarteritis obliterans combined with small kidneys and hypertrophy of the heart. Similar cases of obscure hemorrhage from the pulmonary organs, from the stomach, and from the intestines, had been reported in connection with the small kidneys, but in most instances no source for the hemorrhage had been discovered. Dr. Welch believed that the existence of miliary aneurisms would be found to explain many of these obscure cases.

Dr. A. L. Loomis believed that it was hardly possible to speak of the general symptoms of the different forms of degeneration of the kidneys under the single head of "chronic Bright's disease." From a clinical stand-point he had come to regard Bright's disease, if the general term was to be retained, as an affection which manifested itself in those classes of cases:

*First.*—A class in which the ordinary symptoms of the disease existed, such as well-marked œdema and other renal symptoms accompanying the œdema, and the disease progressing steadily to a fatal termination, as a common form of Bright's disease. It might be called chronic parenchymatous or chronic diffuse nephritis, or by any other name; but the number of cases belonging to this class was large, sometimes the disease began with acute symptoms, at other times it came on slowly, but in both œdema was constantly present from the beginning to the end, and with the œdema there were more or less changes in the urine—quantity variable, always containing albumen in small or large quantities, and quite constantly casts.

*Second.*—A class in which loss of flesh without any apparent cause, a rapidly growing-old condition, was the prominent symptom, with which the quantity of urine varied—not always large, not always below normal, sometimes of high specific gravity, at other times the specific gravity is much below normal—the variations being, seemingly, according to the surroundings of the patient and his mode of living, diet, etc., and yet he steadily lost flesh, labored under depression of spirits, and finally unmistakable evidence of kidney-lesion was found. That was the class of cases in which it was the most difficult to make a diagnosis.

*Third.*—A class of cases in which the symptoms were nervous from the beginning, manifested in various ways, and one of the most frequent was *insomnia*, which in some cases was so prominent that the patients resorted to anodynes to produce sleep. That class of cases came under the head of the atrophic kidney, which had been chiefly considered during the discussion. Headache, insomnia, and certain peculiar nervous symptoms characterized these cases long before any evidence of kidney-lesion was manifested by changes in the urine. In that class of cases the symptoms depended on diathesis, rather than upon lesion in the kidney, and the kidney-symptoms constituted the last page in their history. There might be disturbances in the fibroid element of the body—if such a term was allowable—going on for a long time, such as gave rise to high arterial tension, etc., without affecting the kidneys to such an extent as to interfere decidedly with their function. When he found that form of pulmonary phthisis in which it was evident that fibroid change in the lungs was taking place, he regarded it as but one link in a chain, and immediately instituted a special investigation with reference to the condition of the kidneys.

Hypertrophy of the heart was always found in the third class of cases, but it existed in the other forms of the affection, and very frequently in that variety described under the head of "large white kidney" (chronic parenchymatous nephritis), but it seemed to him that the cause of the hypertrophy in the two instances was different. In the cirrhotic kidney it was due primarily to arterial changes; in chronic parenchymatous nephritis, to interference with capillary circulation due to blood-changes.

In an article published in the *American Journal of Medical Sciences* for October, 1881, Dr. Da Costa, of Philadelphia, had pointed out in a clear manner the symptoms of lithæmia, and by studying those and attempting to draw the line of distinction between them and those symptoms which Dr. McBride had mentioned as affording early evidence of chronic Bright's disease, the difficulty could be easily appreciated.

When fibroid changes in the arteries and hypertrophy of the heart occurred before any renal symptoms which could be positively established, the patient might have been for a long time in that general condition which had had to do with the arterial- and the kidney-lesion. The more he saw of these cases, however, the firmer was his conviction that the kidney-symptoms were the last part of the history.

Dr. McBride, in closing the discussion, remarked that he believed it to be absolutely impossible in all cases to make a positive differential diagnosis between the large and the small kidney of chronic diffuse nephritis, and therefore he was compelled to include the large varieties of kidneys in his classification.

He again drew attention to the statement which he had made in his paper, that there were cases of chronic parenchymatous nephritis where a positive diagnosis was impossible, and also that the more chronic such cases became, the more likely were they to terminate in chronic diffuse nephritis. With reference to the frequency of lithæmia, gout, and gastro-hepatic disturbances in this country, he had found them extremely common, both in private and in dispensary practice, and all of the observations upon which his paper was based had been made in cases presenting such symptoms. He had not borrowed anything from English writers, except in corroboration of the views he had presented, and the conclusions he had reached from observing cases exclusively in this country.

With reference to the absence of symptoms until some accident occurred or intercurrent disease, the fact was mentioned in that part of his paper which he felt compelled to omit on account of time.

With reference to the relation of hypertrophy of the heart and the amyloid kidney, he omitted to mention it, because the consideration of the amyloid kidney was not embraced in his paper, although waxy degeneration might be present in the other forms of chronic Bright's disease.

With reference to endarteritis chronica, spoken of by Dr. Welch, he said that his subject had been studied simply from a symptomatological standpoint; that we had to deal only with the visible or palpable arteries; and that endarteritis chronica was an element in diagnosis only when appreciable in superficial arteries like the radials and temporals. Furthermore no cases of endarteritis obliterans had been reported in arteries of that size, and, so far as he knew, none had been reported of the retinal vessels, although Gowers had referred to thickening of the retinal arteries, but not obliteration. Dr. McBride thought, therefore, that arteritis obliterans in the kidney, lungs, and brain had no relation to the subject under discussion.

The Academy then adjourned.

## NEW YORK PATHOLOGICAL SOCIETY.

*Stated Meeting, October* 26, 1881.

DR. T. E. SATTERTHWAITE, PRESIDENT, IN THE CHAIR.

### THE QUESTION OF ABDOMINAL SECTION IN GUNSHOT WOUNDS OF THE ABDOMEN.

DR. GEORGE F. SHRADY presented specimens consisting of a portion of liver and a section of abdominal aorta, removed from the body of a young woman who committed suicide by an infliction of a pistol-shot wound of the abdomen. She was admitted to the Presbyterian Hospital at noon, October 20th, an hour after the injury, in a state of profound collapse. The point of entrance of the ball was in the left side, over the seventh costal cartilage, three and three-fourths inches below the nipple, and two and one-half inches from the median line. Dr. Simpson, the house surgeon, believing that the missile had entered one or other of the cavities, did not make any exploration of the wound.

When Dr. Shrady saw the patient, at 3 P.M., she was still suffering from shock. There was excessive pallor of the countenance, a small, tremulous pulse, heavy sighing respiration, coldness of the extremities, intense thirst, jactitation, and the other symptoms of internal hemorrhage. The wound, in the situation already indicated, was small and rounded, corresponding in size with that made by a ball of about twenty-two calibre, and was sealed by coagulated bloody serum. The surrounding integument was blackened by powder-grains. An inspection was made of the wound and surroundings in order, if possible, to ascertain the character and extent of the injuries inflicted. The persistence of the shock, with the accompanying symptoms, made it clear that there was internal hemorrhage, and that the seat of the same was below the diaphragm. For obvious reasons no attempt was made to explore the track of the missile. There were no evidences of wound of the lung by a possible upward direction of the bullet, nor was there any increased area of dulness over the heart. It was impossible to ascertain the position of the weapon when the charge was fired, but the natural assumption was that the ball took a general direction from before backward.

### THE DIAGNOSIS OF SUBPERITONEAL HEMORRHAGE.

The wound being over the region of the liver, an injury of that organ was suspected, but the occurrence of other symptoms pointing to extensive hemorrhage from another locality ruled out that organ as a prime factor in the complication. There were no symptoms of wound of the stomach. This was explainable only upon the supposition that the organ was empty and collapsed at the time the shot was fired. Percussion over the abdomen gave normal resonance, except in each lumbar region, where flatness existed, accompanied, especially on the right side, with an irregular tumor, the external presenting edge of which was reasonably firm and quite well defined. This condition, associated with a progressive and tearing pain, deeply situated in the abdomen, gave rise to the diagnosis, duly confirmed by the autopsy, of a dissecting subperitoneal hemorrhage, due to injury of one or more of the large vessels in the subperitoneal region. Assuming the course of the ball to be backward, downward, and outward, the left renal artery was believed to be the probable source of the bleeding.

The patient died in collapse twelve hours after the injury.

The necropsy was made thirteen hours after death, by Dr. W. H. Porter, Curator of the Hospital, who kindly furnished the accompanying report: Body well nourished and abundantly supplied with adipose tissue. Rigor mortis fairly marked. A small, blackish perforation in the skin of the left breast, two and three-quarter inches from the median line, three and three-quarter inches below the line of the nipple (bullet wound). Slight hypostatic congestion of the dependent portion of the trunk.

*Thoracic cavity.*—The pericardial sac contained half an ounce of clear serous fluid, slightly tinged with blood. The heart was nearly covered in by a thin layer of adipose tissue. Weight, nine ounces; organ normal in all respects.

Left pleural cavity contained two ounces of bloody serum. Left lung perfectly free from pleuritic adhesions; weight, eleven ounces. In the right pleural cavity there was half an ounce of bloody serum. A band of old pleuritic adhesions existed at the posterior border of the lung, at the fourth intercostal space, just external to the angle of the ribs; otherwise the lung was free; weight, eleven ounces. Both lungs were quite dry, but when cut into their central portions were bright red, as if deeply congested.

*Abdominal cavity.*—There was both bloody serum and coagulum in the peritoneal sac, seventeen ounces

of the former and one of the latter. The coagulated blood lay upon the right side on the free surface of the peritoneum, between the ascending colon and the root of the mesentery. Upon turning the small intestines to the right and out of the peritoneal cavity, a large subperitoneal extravasation was brought clearly into view, lying between the descending colon and the root of the mesentery. This extravasation appeared to extend from the splenic flexure of the colon downward and to the right, apparently terminating at the superior border of the right broad ligament. Later on it was traced downward and outward through the great sacro-sciatic foramen. All the post-peritoneal and the perinephritic tissues were filled with blood-clots and serum, the kidneys being fairly embedded in a mass of coagulum. The *liver* was very pale, as if bloodless; otherwise normal, excepting the hole made by the ball.

The course of the ball was from before backward and to the right, through the centre of the seventh costal cartilage into the pleural cavity, diaphragm, and cavity of the abdomen. It thence tracked through the liver, one inch from its longitudinal fissure, passed the lesser curvature of the stomach, slightly wounding its muscular coat, cleared the superior border of the pancreas, splenic artery, and posterior surface of the duodenum, and perforated the anterior wall of the abdominal aorta a little to the right of the median line, and an inch below the origin of the right renal artery. The point of exit from the aorta was on the right posterior aspect of the vessel. The bullet evidently struck the body of the second lumbar vertebra, and was deflected from its course in a direction downward and outward into the substance of the right psoas muscle.

Its point of lodgement was three inches below the wound in the artery and two and a half inches to the right of the median line.

Quite naturally, in view of recent discussions bearing upon the propriety of performing abdominal section in such cases, this measure was thought of by Dr. Shrady when the patient was first seen. For many reasons the expediency of such an operation was not entertained. There was no doubt that internal hemorrhage was taking place, and that the patient was dying in consequence, still it was quite plain that she was beyond the possibility of aid by any operation. Although the location of the clot was diagnosticated before death, and the source of the hemorrhage was discovered post-mortem, scarcely an inch from the supposed locality of the injured artery, any attempt at tying the vessel actually wounded, even if reaction had been previously established, would have been worse than useless.

Dr. Shrady remarked that the case exemplified, in quite a striking manner, the usual contraindications for the operation of abdominal section in gunshot wounds of the abdomen. These were briefly alluded to as persistence and profundity of shock, difficulties of diagnosis as to the organ wounded, the degree and source of the hemorrhage, the precise track of the missile, and also the danger of adding to existing evils by any attempts at exploring the wound.

Dr. Briddon said that until within the last few years the large serous cavities had justly been regarded as closed, or sealed sacs, so far as surgical interference with them was concerned. It was to the results obtained under the antiseptic treatment, doubtless, that the heroic measures could be traced which were now regarded as justifiable and proper in some cases of wounds of these cavities. It was one thing to picture an ideal case of such a wound, with the consequences standing out in bold relief, symptoms all clearly defined, everything represented in beautiful outline, such, for instance, as those depicted in the various text-books. Such an assemblage of conditions might warrant the inauguration of a line of treatment which an autopsy would sustain. His impression was that, in the large majority of cases, when we come face to face with realities, the situation would be different. We should find no such accommodating association of facts to guide us, and with everything obscure and doubtful, provokingly so in most cases, the patient in profound collapse (how much due to impressions made on the great system of nerves that preside over the functions of the viscera, and how much due to hemorrhage, it was impossible to decide), and with little else to guide him, he would be bold who would advise and perform a section that might, by adding to the shock already existing, strangle the reaction which was struggling for existence; a section which also might expose to view a condition of affairs far different from that supposed to exist, thus giving evidence of the fallability of human judgment; and of a state of affairs that would lay the operator open to the charge of meddling with conditions the gravity of which he had no previous adequate idea. Some years ago he had heard a member of the society, now dead, but then eminent in the profession, declare that he should hold the man who would stand by the bedside of a woman dying from hemorrhage due to rupture of a Fallopian tube, in gestation occurring within that canal, and who would refuse to open the abdominal cavity and secure the bleeding vessels, guilty of manslaughter. The terms were strong, and he (Dr. Briddon) thought they could not be sustained. For, often when the surgeon saw such a case the hemorrhage had ceased by natural processes, and the collapse was so great that the additional shock of such an operation might well be regarded as dangerous; besides there were well authenticated cases where recovery had followed even so grave an accident as this. He could conceive cases such as might demand interference to stay a hemorrhage going on immediately after the reception of a wound. He would also advise abdominal section in wounds of the intestine. Of course, in wounds of protruded viscera the indications were plain enough to suture the intestine and return it to the cavity. In those cases in which we have evidence of fecal extravasation within the abdomen, he had no doubt the proper course to pursue was to open the cavity and either suture and replace the gut, or secure it in the abdominal wall and aim for an artificial anus. He could also conceive of a condition met with when the patient was coming out of collapse, when reaction was being established, when the abdomen was becoming distended with the products of inflammation due to unrecognized extravasation; under such circumstances he thought it would be proper to make abdominal section, seek, and secure the intestinal wound, wash out the cavity with antiseptics, and introduce either glass or rubber tubes to insure drainage. The proper time to interfere was either when hemorrhage was going on or at a later period, when we had reason to fear that peritonitis, due to extravasation, was either present or impending.

### PROBING WOUNDS OF CAVITIES.

Dr. Howe asked Dr. Shrady what objection he had to passing a probe through a wound into the abdominal cavity.

Dr. Shrady replied that on general principles it was bad practice, and nothing could be gained by the procedure.

Dr. Howe asked, "Why bad practice?"

Dr. Shrady replied: "Because it may add to already existing evils."

Dr. Howe remarked that that was only a supposition. He was unable to see what harm a Nélaton probe would do following in the track of a greasy bullet through the abdominal walls into the cavity, if it was passed by gentle hands. Were he called to a case of gunshot-wound, no matter where it was, provided the patient was alive and not in profound collapse, he would introduce a probe and endeavor to find the track of the bullet without twisting the instrument about or searching in a rough way in any organ. For, if the ball was allowed to remain it certainly would cause harm and greater damage than would be done by the probe carefully used.

If the bullet could be located he did not see why the surgeon should not enlarge the opening, if necessary, and remove it. Besides, the probe might give some indication as to whether or not the intestines were wounded; for if fecal matter had escaped into the abdominal cavity, the instrument might come in contact with it and bring some of it out, and thus afford a good indication for an operation.

Dr. Howe also thought that a surgeon might be justified in making abdominal section in cases of wounds of the gall-bladder. If left untouched, they were certain to terminate fatally; while it was possible that the patient's life might be saved by opening the abdomen, closing the wound in the gall-bladder, or bringing the edges of the opening into the lips of the abdominal incision and securing them with sutures.

He believed that the same course was justifiable in connection with wounds of the kidney, and also of the bladder, as well as of wounds of the intestines. The mere fact that a case was found post-mortem which could not have been benefited by an operation did not prove anything against proper probing.

Dr. Briddon's opinion was that any proposition to probe the abdominal cavity, after gunshot-wound, was vetoed by the profession, that it was settled long ago, and that the condemnation of such a proceeding was most emphatic; it could do harm by increasing extravasation in wounded intestine, by disturbing clot in vessels that had given rise to hemorrhage, and was a most fallacious and unreliable guide in every respect. He could conceive of no conditions that would warrant its use. With reference to wounds of the gall-bladder or its ducts, he did not regard them as of necessity fatal.

Dr. Howe said that there was no such general rule; there was probing and probing, but gentle probing had not been objected to by any one.

Dr. Shrady believed it to be a good rule not to probe large cavities into which the surgeon was sure a bullet had entered; for, by probing, he was more apt to do harm than good. If, for example, an attempt should be made to probe a wound of the abdominal cavity, there would be much difficulty and uncertainty in following the track made by the ball, and the chances would be fair that some vessel would be wounded, some clot disturbed, or some important organ injured, and in the end the locality of the ball be undetermined. He was glad that he had not attempted to introduce the probe in the case reported, because it certainly would have entered the liver and doubtless increased the hemorrhage. He was satisfied that internal hemorrhage was taking place, also that the bullet had occasioned it; that it was impossible to locate either the missile or the wounded vessel; and he was therefore forced to leave the case to nature. Furthermore, he believed that the autopsy vindicated the plan of management adopted.

Dr. Howe regarded Dr. Shrady's case as an exception to the rule, because the course of the bullet and what was killing the patient were known. He wished his remarks to be applied to cases in which the surgeon was ignorant of the track of the bullet; and in such cases he believed that, if the patient was not in a state of profound collapse, the surgeon would be justified in following the ball with a probe until he became satisfied that he was unable to find where it had lodged.

Dr. Shrady thought that the great difficulties in such cases were in making a positive diagnosis, and in obviating the condition of shock which would render any operation admissible. Under such circumstances the benefit of the doubt should be given to the patient rather than to the surgeon.

The President said that his experience had been confined to penetrating wounds of the thorax, but so far as it had extended it had led him to favor sealing them hermetically with collodion. He had seen four cases while an interne in the New York Hospital. In three of them the opening was kept patent, and all the patients died with empyema and pneumonia. In the fourth case the wound was tightly sealed with collodion, and although empyema and pneumonia supervened, the complications were less severe than in the other cases, and the patient recovered.

Dr. Briddon had seen five or six cases in which there was a penetrating wound of the chest-wall, in some of them the viscera being involved, and they had entirely recovered without any local treatment whatever. The ball was small, and the wounds did not require the application of collodion, for they were sealed effectually by natural processes.

Dr. Howe said that such experience could not be used as an argument against entering the abdomen. For, in the first place there was no poisonous substance like fæces or bile or urine to be poured out; there was nothing except the blood to be extravasated, and it was a well-known fact that patients with bullet-wounds of the lungs frequently recovered without special treatment. It was also a well-known fact that bullet-wounds of the intestines, gall-bladder, kidneys, etc., were almost always fatal; the patient having next to no chance whatever of recovery. Why should we not give the patient one chance?

(To be continued.)

The Cure of Aneurism of the Aorta by Galvano-Puncture is so rare that a case of this kind, under care of Dr. Richard Cameron, of Valparaiso, Chili, deserves notice. The patient was a man of forty, with an aneurism of the ascending arch. The usual remedies were tried without success, and galvano-puncture was finally resorted to.

Two fine steel gilt needles were used, passed into the aneurism, and kept there for twenty minutes. In about two weeks the tumor began to flatten, and all bad symptoms gradually and permanently disappeared.

The curious and instructive point is that, after removal of the needles, it was found that almost no current had been passing, owing to a defect in the battery.

# Correspondence.

## HYPODERMIC MEDICATION.

### How Hypodermic Injections should be Administered and Prepared.

To the Editor of the Medical Record.

Sir: In recent numbers of The Medical Record I have noticed several communications from correspondents on the subject of the hypodermic use of morphia, and it has occurred to me that the results of my own quite extensive experience in a similar use of this and other remedies might not be wholly devoid of interest or value, at least to a portion of the profession. What I have to say probably will not be new to many practitioners, but that to a far larger number it will be, I am convinced by daily observations.

First, with regard to the remedy most frequently administered hypodermically—morphia: the following solution, the formula which I find in my notebook under date of 1875, credited to Skidmore, a druggist of Portland, Oregon, and with whom, so far as I know, it is original, is a perfectly stable one, never showing signs of change or of the growth of fungus after years of keeping, and never producing inflammation or even irritation when given in the manner shortly to be mentioned.

℞ Morphiæ sulph.....gr. xcvi.
Aq. destillat. ebul..... ʒ iij.
Acid sulph. dil..... ♏ viij.
Misce et adde
Acid. carbolic.....gr. xx.
Glycerin. pur..... ʒ j.
Cola per chart.

Of this, twenty minims contain one grain. The only objection to the use of this solution which I can see, is that it might be confounded with the somewhat weaker Magendie's solution, but that risk could be readily obviated by diluting the one to the strength of the other.

A solution which will keep perfectly well, for several months at least, can be made by the addition of carbolic acid to the ordinary Magendie's solution, as Dr. Gillette states in The Record of October 1st, or by using chloral hydrate, salicylic acid, or probably any other equally harmless germicide. All of the above I have used, including the salicylic acid, about which some doubts have been raised, and find them all entirely satisfactory; but more than that, I have very frequently been compelled to use the ordinary solution, old and full of the much-dreaded vegetable growth, obtained at drug stores in little towns on the remote frontier, at military posts and on the march with troops in the field—solutions which, if used in the ordinary manner, would almost inevitably have produced cellulitis, and probably abscess, and, for more than six years, no one of the great number of hypodermic injections of morphia made by me has been followed either by abscess or cellulitis, however slight.

There can be, I think, but one explanation for this somewhat exceptional experience, and that is the manner of administering the injections, which is as follows:

Taking good care *not* to allow any of the solution to escape into the subcutaneous cellular tissue, the needle of the charged syringe is plunged *deeply* into the substance of some muscle, ordinarily the deltoid. the piston gently pressed home, and the needle withdrawn.

The thick muscles of the thigh, the gluteal region, or the back can be made the site of the injection equally as well, but as the deltoid is very easily accessible under all circumstances, it is the one usually selected.

As every one knows, the subcutaneous cellular tissue is always easily inflamed, and in certain conditions of the system the most trifling injury to it is sufficient to set up an inflammation of which suppuration is by far the most frequent termination. I am satisfied that cases are continually occurring in practice in which an abscess is sure to follow a hypodermic given in the ordinary way, no matter how deft the operator, how scrupulously clean the needle, or how thoroughly bland and unirritating the solution used. On the other hand, the muscles are exceedingly slow to take on inflammation, and suppuration in this tissue, even after very severe injuries, is extremely rare if the skin is unbroken, or practically so, as in myotomies, certain operations upon bones, and in hypodermic injections. The interstices between the muscular bundles are not of course so easily distended by a fluid as are those of the subcutaneous areolar tissue, but this is a matter of no importance in the injection of the few minims of liquid which are used in nearly all cases. Of course, when large quantities of fluid are used, as in the hypodermic administration of whiskey, etc., the loose areolar tissue immediately underneath the skin is to be chosen as the place for giving them, but under ordinary circumstances fifteen or even twenty minims of fluid can be forced into the substance of any of the muscles mentioned above without the least difficulty and with very little pain to the patient; moreover, when the deep muscular injection is made there is no necessity for the more or less careful and slow, and hence to sensitive patients, especially females, more or less painful insertion of the needle. The limb can be firmly grasped on its inner side, thus rendering the skin tense over the seat of the proposed puncture on its outer aspect, and the needle, if of proper length, introduced to its full length with a thrust so rapid as to be scarcely felt. Many a success or failure in the practice of medicine has been determined by a more trifling matter than the sensation of a nervous woman when receiving a hypodermic injection.

Next to morphia the drug most commonly used subcutaneously in my practice is ergot, prepared according to the following formula:

℞ Ergotin (Boujeau's)..... gr. xlviii.
Aq. rosæ.....
Glycerin.....āā ʒ j.

For over three years it has been my practice in every case of childbirth, where there were no contraindications, to inject five to twenty minims of the above solution deep into the substance of the gluteal muscles just as the head of the child escaped from the vulvæ, relying upon this measure, together with expression of the placenta by Credé's method and washing out the uterine cavity with very hot carbolated water in *every* case immediately after the delivery of the placenta, to secure firm, *unintermitting* uterine contraction, a guarantee against hemorrhage, possibly against after-pains, and probably against septic infection. With the latter end in view, the prevention of septic infection, the hot water used is carbolated, and as a further measure of safety during

the lying-in the vagina is very frequently irrigated with warm carbolated water until the lochial discharge ceases.

I was first led to give the hypodermic use of ergotin a trial in obstetrical cases by the perusal of an article by Dr. W. Allen Jamieson (*Practitioner*, October, 1877; *Braithwaite*, January, 1878), advocating its systematic use for the purpose of preventing after-pains.

Though in this respect it was not, in my hands, quite so productive of good results as Dr. Jamieson found it to be, still, its great usefulness in others, as mentioned above, soon attracted my attention.

Its chief advantage over the administration of ergot by the mouth is in the fact that its action is much more prompt, certain, and continuous, and that it can be given at a time when the termination of the labor can be definitely foreseen, *i.e.*, after the escape of the head, and produce its full effect when it is most needed, *i.e.*, after the delivery of the placenta, which action cannot by any means be predicated of any form of ergot administered *per orem*. Since early in 1878 I have thus used ergotine hypodermically in nearly all of quite a large series of obstetrical cases, and with only the happiest effects in all save one, in which, owing to the struggles and contortions of the half-chloroformed patient the injection was accidentally made into the subcutaneous areolar tissue, instead of deep into the muscles of the gluteal region, as was intended. The result was a large and painful cellulitis, terminating in an abscess, which was a long time in getting well.

All this may perhaps come under the head of "meddlesome midwifery," but it at least cannot be considered that "shilly-shally midwifery" which my teacher, the late lamented Dr. Budd, was wont, in his energetic way, to denounce as infinitely worse.

The formula for the above-mentioned solution of ergotin was published by S. Grose, Esq.. F.R.C.S., in the *Lancet* of November 17, 1877. It keeps perfectly well for a long time, while a watery solution alone does not.

It would be superfluous to mention the hypodermic use of brandy or whiskey to any one familiar with modern hospital practice, but there are, doubtless, many readers of this widely circulated journal who are not fully aware of the very great value of such medication in cases of impending death from collapse, especially when aided in its action by the simultaneous application to the epigastrium of a very hot spoon, or even a live coal.

On account of the large quantity of liquor which it is commonly necessary to use in these cases, two or three drachms to an ounce or more, the injection must of necessity be made into the loosely connected meshes of the subcutaneous areolar tissue, and abscesses must be expected sometimes to follow. In these desperate cases, however, if the patient lives till an abscess has time to form he is probably out of danger and ready to forgive the doctor for causing it.

Out of quite a number of such injections made by me in the last few years I can recall but two which were followed by abscesses. In one collapse occurred during the operation for excision of the hip-joint, and in the other heart-failure took place in an old woman nearly recovered from the effects of an overdose of opium by the use of atropia, electricity, etc. Both were broken-down patients, both recovered from the alarming condition for which the injections were given, but they had very extensive abscesses in the region of the needle-punctures.

I have tried ether hypodermically, but have not found it to possess any advantages over brandy or whiskey, used as above stated, in connection with heat to the epigastrium.

Without referring to many other remedies, such as atropia, camphorated oil, preparations of mercury, etc., which are often much better administered hypodermically than in any other way, I will bring to a close this communication, which has already extended far beyond the limits intended for it, by apologizing to those members of the profession to whom I have said nothing new. It is simply my desire to put the results of my own experience with a very important therapeutical measure at the disposal of those to whom perchance they may be of interest or service.

F. C. Ainsworth,
*Assistant Surgeon, U.S.A.*

Fort McIntosh, Texas, October 27, 1881.

## HOMŒOPATHIC CONSULTATIONS.

To the Editor of the Medical Record.

Sir: I am sorry Dr. Stair declines to define, for publication, the expressions, "homœopath" and "regular physician," and to indicate what he understands to be the "doctrines" of the former and of the latter. I think if any reader of this will take pencil and paper and thoughtfully endeavor to answer the questions for himself, he will not find the task an easy one; and if the answers of a dozen different gentlemen were compared, I feel confident that striking differences would appear. Until, however, I know just the meaning attached by Dr. S. to the expressions in question, I, of course, cannot discuss with him the issues involved. I am satisfied, nevertheless, that there is a great deal of misapprehension concerning this matter, and I crave the indulgence of a little space to present what appears to me to be the truth concerning it. The fact is that, for the past thirty-five years, physicians who are members of the American Medical Association, or of societies entitled to representation therein, have not been in the habit of consulting with physicians commonly known as "homœopaths." This is due partly to the fact that many, perhaps most, of the former have not wished to consult with the latter, and partly to the fact that it is generally supposed that the "Code of Ethics" expressly forbids such consultations; and the following clause from the Code is brought forward as evidence of this prohibition. The clause reads: "But no one can be considered as a regular practitioner or a fit associate in consultation whose practice is based on an exclusive dogma, to the rejection of the accumulated experience of the profession, and of the aids actually furnished by physiology, pathology, and organic chemistry."

Does this apply to the "homœopaths?" Do they practise according to an "exclusive dogma," and also reject the aids above referred to? If so, what is this "exclusive dogma"? I do not care to be told that it is the phrase "*similia similibus curantur*" (similars are *treated* by similars), which we often hear mistranslated into "like cures like," for this, correctly understood, is not a *dogma*, but simply a *proposition*, and one that excludes nothing. The Latin verb *curare* does not mean to *cure*, in the ordinary English sense of that term, but to *treat* or *take care of*, and is the equivalent of the French *soigner* and the German *behaudeln*. The word to cure, that is, to restore to health, would in Latin

be expressed by the verb *sanare*, in French by *guérir*, and in German by *heilen*. I assume, therefore, that, so far as homœopaths are concerned, the question of exclusive dogma falls; but even if it held, it would be necessary to show that, in addition, they rejected the "aids," etc., above mentioned before applying to them the rule of the Code. What is there, then, to prevent consultation with a homœopath? Nothing, so far as I can see, except the matter of personal inclination. Every regular may, if he chooses, consult with the average homœopath, without fear of the Code, and, if it is desirable to forbid such consultations, a new rule on the subject must be formulated, and one that will accurately cover the ground without loophole or way of escape. But is it desirable that such a rule or amendment to the Code be adopted? This is a question well worthy of consideration at the present time. Its discussion, however, should be preceded by a clear statement of the objections to homœopaths and to consulting with them. It is only by having a clear understanding of these points that we can arrive at a judicious settlement of the question as to the desirability of consulting, or of amending the Code so as to effectually prevent such consultations.

Respectfully yours,

ETHICS.

## ARMY NEWS.

*Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from November* 13, 1881, *to November* 19, 1881.

McCLELLAN, ELY, Major and Surgeon. Having reported in person at these headquarters, will proceed to Fort McHenry, Md., and report to the Commanding Officer for duty. S. O. 204, Department of the East, November 17, 1881.

CARVALLO, C., Capt. and Asst. Surgeon. The leave of absence on surgeon's certificate of disability in S. O. 108, October 24, 1881, Department of the Platte, is extended five months on surgeon's certificate of disability. S. O. 256, A. G. O., November 12, 1881.

LAUDERDALE, J. V., Capt. and Asst. Surgeon. On discontinuance of McPherson Barracks, Atlanta, Ga., assigned to duty at Jackson Barracks, La.; to remain at McPherson Barracks until medical property, for which he is responsible, is disposed of. S. O. 124, Department of the South, November 10, 1881.

BYRNE, C. B., Capt. and Asst. Surgeon. Temporarily at McPherson Barracks, assigned to duty at Fort Barrancas, Fla. S. O. 124, C. S., Department of the South.

CUNNINGHAM, T. A., Capt. and Asst. Surgeon. Relieved from duty at Jackson Barracks, and assigned to duty at Mt. Vernon Barracks, Ala. S. O. 124, C. S., Department of the South.

COUES, ELLIOTT, Capt. and Asst. Surgeon. His resignation accepted by the President, to take effect this date. S. O. 260, A. G. O., November 17, 1881.

THE *Michigan Medcal News* complains that an item regarding the science and the smiles of infants was published in THE RECORD without acknowledgment. The item was seen in several journals, not all of them medical, and was credited to none in particular. We take pleasure now in giving the *News* its due.

## Medical Items and News.

CONTAGIOUS DISEASES — WEEKLY STATEMENT. — **Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending November 19, 1881.**

| Week Ending | Typhus Fever. | Typhoid Fever. | Scarlet Fever. | Cerebro-spinal Meningitis. | Measles. | Diphtheria. | Small-pox. | Yellow Fever. |
|---|---|---|---|---|---|---|---|---|
| Nov. 12, 1881. | 0 | 22 | 125 | 2 | 34 | 75 | 22 | 0 |
| Nov. 19, 1881. | 0 | 41 | 143 | 8 | 43 | 95 | 15 | 0 |

ELECTRO-MASSAGE.—Referring to Dr. Butler's criticism, in a recent number of THE MEDICAL RECORD, Miss Post writes as follows:

"The word electro-massage, describing massage by the electrified hand, is to be found in the writings of Dr. J. Caldwell, of Baltimore. I extract from a description of the treatment of club-foot: 'We made daily alternating applications of galvanic and faradic currents.' . . . 'We ordered the limbs to be shampooed or massaged.' . . . 'The combined modes we have denominated electro-massage treatment' . . . 'In electro-massage the hand of the operator must be an electrode, so that each faulty, weakened muscle may be massaged and revitalized' (see *Gaillard's Medical Journal*, p. 269, 1881). The term was also used by me previous to its publication by Dr. Butler, having been printed upon my cards in August, 1879.

"The method of treatment is not new, but has been administered by manipulators under the name of manual electricity, etc. Drs. Beard and Rockwell make the following statement: 'There are those who, by long practice, are enabled, when necessary, to readily manipulate any portion of the body with either hand while there is passing through them a current so powerful as to keep many of the principal muscles of the arms in a state of contraction' (see 'Medical and Surgical Electricity,' p. 348, 1881).

"A monopoly cannot be sustained, even with regard to its mechanical production, as this also has been practised by Louis Sass and others of this city.

"Reference to the article in question, June 25th, p. 724, will show that I do not claim to have originated, but simply to have modified and applied. The essential peculiarity of the roller lies in the inclination of its handle thirty degrees from the vertical of the shaft, while the brush is distinguished by the extent of surface covered, and the consequent attenuation of the current at any given point. By its use we have rubefaction and stimulus to the skin without losing the general sedative effect of faradization by other means; if care be taken to avoid shock, the pulse will be slowed and the application will be followed by an inclination to sleep."

PEPSIN AS A SOLVENT FOR DIPHTHERITIC MEMBRANE.—A case is related by Dr. W. Hale White (*Lancet*) in which acid glycerin of pepsin was sprayed into the throat. The result was quite satisfactory, the pepsin seeming to soften and gelatinize the diphtheritic masses.

# Original Lectures.

## METHODS OF DIAGNOSIS IN DISEASES OF THE NERVOUS SYSTEM.

By E. C. SEGUIN, M.D.,

CLINICAL PROFESSOR OF DISEASES OF THE NERVOUS SYSTEM IN THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

### Lecture I.

*Gentlemen:* I propose to devote this and a subsequent lecture to a brief summary of the methods of diagnosis, more particularly those resorted to in organic nervous diseases, describing the instruments used and showing you how to go over a patient's body and examine it. A knowledge of the methods of diagnosis and of how much trustworthy information they will yield us is very important, and, I think, may be considered with profit. I will have a patient brought in, that I may make such manipulations upon him as are used in forming a diagnosis. Of the functions of the nervous system there are two general divisions: in the first place, the functions of movement; and in the second place, the functions of sensibility. An examination into the psychic functions is of great importance, but hardly a subject for a clinical discourse.

For determining the condition of the functions of movement there are three methods, viz.:

*First.*—By means of dynamometers.

*Second.*—By the performance of passive and active movements.

*Third.*—By inspection.

1. The instrument which is mostly used in making examinations into disorders of movement is the dynamometer, or strength-measuring instrument (see Fig. 1). There are several varieties of dynamometers. The one I use is the simplest kind, and consists of an elliptical steel spring which can be compressed in the hand or other parts of the body. Connected with it is a cog-wheel which moves an index-needle upon a dial, the index-needle remaining where it is carried by the muscular effort of the patient. The French instrument is provided with a double scale, which I think is altogether unnecessary. Observations made with this dynamometer, when recorded, should be accompanied with a statement as to whether the numbers refer to the inner or outer scale, as the numbers indicated on the two scales differ enormously. For instance, the dynamometer-needle in this patient's grasp points to 200 on the outer scale, and 70 on the inner scale. These numbers are supposed to represent kilogrammes, but I have no faith in the accuracy of such representations. Again, there is no advantage to be gained by knowing the exact number of pounds or kilogrammes of force exerted. A registration of degrees of force is entirely sufficient, and I always speak of the numbers indicated in any particular case as so many degrees. Now, as to the method of grasping the instrument. It should be grasped fairly and squarely in the hand, with the second phalanges resting upon the spring, and should be compressed without resting the hand or arm upon anything, and without giving the arm a swing at the moment of compression, as some patients will do. It is also important to place the face of the dial toward the palm of the hand, otherwise the fingers of the patient may interfere with the movement of the index-needle. We know that there is in most healthy individuals a difference in strength between the left and right hands, but we want to estimate it. There are very few healthy individuals with a difference of more than five or eight degrees; a difference of ten degrees would lead to the suspicion of paralytic weakness upon one side. Sometimes we find the left hand stronger than the right. A number of patients are left-handed, and therefore use the left hand more than the right. There are some occupations which tend to develop more strength in the left hand than in the right. Car-drivers show equal strength of both hands, or greater strength with the left hand, for the reason that the reins are held in it. I need not go into further details, but will say that you should be on the lookout for these normal variations in making tests with the dynamometer.

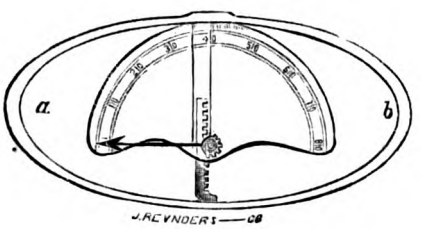


Fig. 1.

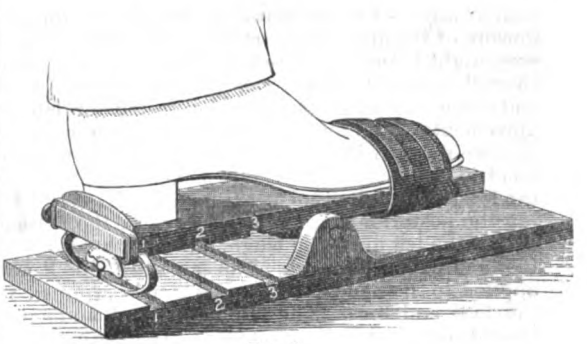

Fig. 2.

My friend, Dr. Birdsall has invented a foot-dynamometer, which is intended to record the comparative degrees of strength of either the anterior or posterior tibial group of muscles upon the two sides of the body. It consists (see Fig. 2) of a board with a movable foot-piece, which is grooved so as to receive the hand-dynamometer between the base-board and the movable foot-board. The foot-board is provided with a toe and heel strap, by means of which the foot is secured in position upon it. By placing the hand-dynamometer in the front grooves and strapping the heel down upon the foot-board and telling the patient to lift his heel, the strength of the posterior leg-muscles can be approximately estimated. For testing the anterior tibial group of muscles the ends of the instrument are reversed, the hand-dynamometer being left in position, and the toes strapped to the foot-board. The patient is then directed to attempt to raise his toes, and in so doing the power expended is transmitted through the heel to the hand-dynamometer. This instrument was brought to the notice of the profession in June last, by Dr. Birdsall, in a paper read before the American Neurological Association. Its accuracy is not

as great as that of the hand-dynamometer, but, as I have already remarked, we do not care so much for an accurate record of the force expended as we do for a comparative measurement of the force exerted on the two sides of the body.

There are registering dynamometers which record upon paper, or other prepared material, the muscular strength and tone of the patient. There are also dynamometers which will register the amount of pulling or pushing force exerted, and so on; but, for practical work, all that is necessary is a good hand-dynamometer.

2. Another method of testing disorders of movement is by handling the patient. The manipulations are made with our hands, and against the patient's will. We are thus enabled to determine the amount of resistance—strength of a great many muscular groups in the body. We lay hold of the patient's limb, having directed him to hold it in a given position, and tell him to resist our efforts at flexion or extension. By having the patient resist downward pressure upon the chin, we can determine whether there be paralysis of the masseters, temporals, or pterygoids. If paralysis exist, a very slight downward pressure will be sufficient to overcome the muscular resistance, and thus open the mouth. We can judge of the condition of the neck-muscles by the movements of the head. We direct the patient to hold his head perfectly stiff and upright, and see how much force is required to move it forward or backward. In a similar way we test the power of the flexors and extensors of the arm. In partial lead-paralysis only a very slight force is required to flex the hand. The short flexors of the hand can be tested in this way, and even the interossei can be tested by lateral movements of the fingers. With the lower extremities we proceed in a corresponding way. To test the quadriceps extensor femoris, we make the patient hold the leg in extension and attempt to flex it. For testing the posterior thigh-muscles we cause the patient to flex the leg upon the thigh, and take hold of the foot and pull it forward. The same test which was applied to the hands and fingers can be applied to the foot and toes. The abductors and adductors should be tested in the same way. In little children, under three years, the condition of the muscles may be examined by what I am in the habit of calling the cataleptoid test; or, more properly speaking, we note the absence or presence of the cataleptoid state in the muscles. I have found that if we divert the attention of a healthy baby and gently place one of its arms or legs in a given position, or in any position, that position will be maintained for several seconds or minutes. The limb is held by an automatic muscular contraction—an exaggeration of the muscular tonus. This normal state I call the cataleptoid state. In paresis or paralysis, more especially in infantile spinal paralysis, the affected limb, when most carefully placed as described above, falls at once, like lead, in obedience with gravity.

The ocular muscles can be tested by requesting the patient to follow an object about with his eyes without moving his head. Convergent and lateral movements can thus be studied. A good way of testing the interni is to hold your finger at about twelve inches from and in front of the patient's eyes, and move it gradually to within three inches. If affected, one eye or both eyes will diverge. We test the external recti muscles by making the patient follow an object in the outer fields of vision. It must not be assumed in obscure cases that this test is sufficient. There are cases of diplopia which are not revealed by this means. The method by which the oculists determine the existence of latent diplopia is to hold a strip of colored glass before one eye so as to color one of the images of the object, and thus enable the patient to distinguish them. Prisms are also used for detecting slight weakness of the recti muscles; but, as this is a part of a delicate manipulation of special eye practice, I need not more than refer to it.

3. The third method is by observing the patient's movements, or by inspection. The tongue is tested by requesting the patient to protrude it, and observing whether it deviates to the right or left, and how far it is protruded. You should guard against error in making the projection test. If the patient has lost a good many teeth upon one side, the tongue may be deviated in consequence, or it may be turned out of line by a cicatrix in itself. The tongue may be deviated by paralysis of one cheek. These sources of error are of considerable importance in a practical way. Facial paralysis on one side is evidenced by a drawing of the features to the opposite side, as well as by loss of expression on the affected side. In paralysis of the orbicularis palpebrarum the eye cannot be closed, etc. The various movements of the arm are to be tried in a systematic way. In evident paralysis, of course, we do not make these tests, but in slight cases we tell the patient to move both arms simultaneously, and note which one moves slower and less forcibly. I will show you a case of ordinary hemiplegia. I ask the patient to hold up both arms, but you see that the paralyzed arm does not go up like the other.

By voluntary movements we test the various forms of inco-ordination. We test co-ordination by testing the precision of the movements of the muscles, not their strength. A ready means of doing this for the arm is to request the patient to shut his eyes and try to put the tip of his forefinger upon the end of his nose. Some patients cannot do this. In that form of sclerosis known as disseminated cerebro-spinal sclerosis, and in posterior spinal sclerosis involving the cervical cord, the patient, upon being submitted to the above test, has oscillating movements of the arm and finger, and ends by thrusting his finger into his eyes or mouth. Similar oscillations are shown when the patient attempts to put a key in a key-hole. These resemble closely the movements of a person trying to do the same thing while in a state of acute alcoholic intoxication.

The movements of the legs and feet in walking have been the subject of much study. Some observers have endeavored to record the peculiarities of gait by means of giant sheets of paper so prepared that when a patient walks upon them imprints of his footsteps will be left. Such tests require considerable expenditure of time, and hence I would ask you to learn to judge of the gait of a patient by inspection and by the sense of hearing.

In the hemiplegic gait the foot is turned in, the heel raised, and the patient brings the extremity forward with a swinging, semicircular movement; he cannot bend the knee properly. This is what the French call the sickle walk. As the foot is brought forward, the outer portion of the sole of the shoe scrapes upon the floor. Hence it is that these patients first wear out the soles of their shoes upon the outer side. As a part of the hemiplegic gait should be noted the drooping shoulder of the affected side.

A characteristic walk is the ataxic. In this the leg is well raised, and the patient overdoes the ex-

tension and abduction movements of the step, bringing the foot down, heel first, in a jerking manner. A good method of testing co-ordination of the legs is by driving a pin into the toe of the patient's boot, and requesting him, while seated, to approximate the head of that pin to the head of another which you hold above it. If there be ataxia, the foot will oscillate in this movement, as the finger does in the nose-test. In the recumbent posture there is a more classical test of ataxia. Covering the patient's eyes, we bid him put his right heel upon his left patella. If he be ataxic, the heel wanders about in a vain attempt to hit the mark.

Another peculiar walk, which is of considerable frequency, is the paraplegic, the walk of partial paralysis. In chronic transverse myelitis the patient walks with a scuffling movement, dragging his toes upon the floor.

By closing your eyes and listening to the walk of two patients, one ataxic and the other paraplegic, you can tell them apart easily. The former makes a loud stamping sound with his heels; the latter scrapes the floor with his feet.

An important walk is the tetanoid, which I first described in 1873.* The patient takes very small steps and turns the toes inward. The feet are approximated, and there is a tendency to crossing of the legs from over-action of the adductors. The legs are rigid and the feet drag. You will find this in many children, occasionally in adults. This walk is believed to indicate primary or secondary sclerosis of the lateral columns, or want of development of the same parts.

In hysterical hemiplegia the walk is peculiar. A woman may seem to have complete paralysis of the arm and partial paralysis of one leg. In walking she moves the leg in the proper vertical line; there is no sickle movement; the foot is carried carefully and squarely over the ground, and is dragged. Dr. R. B. Todd,† of London, who was one of the most acute and skilful students of nervous diseases thirty years ago, first described this walk.

The walk of patients with cerebellar disease is usually badly denominated in the books. It is spoken of as ataxic, but there is nothing ataxic about it. If you were to test a patient with cerebellar disease as you would one with ataxia, by requesting him to shut his eyes and put the end of his forefinger upon the end of his nose, etc., he would have no difficulty in doing it. The walk of cerebellar disease is inco-ordinate, though not ataxic. It is more like the inco-ordination of intoxication, or, as the French writers call it, *titubating*. The patient tries to extend his base of support by separating his feet, and his body oscillates from side to side. If the feet be bare, the patient's toes will be seen working abnormally, and apparently digging into the carpet. Nothnagel‡ has written the best account of the cerebellar walk.

I will add a few words about reflexes. These are tested usually by pinching, burning, or tickling the soles of the feet and other parts of the body. The tendinous reflexes are of more recent discovery. We determine their existence or non-existence by tapping upon the tendons with the finger, as in percussion. Then, there are internal or visceral reflexes, such as those of the bladder resulting from the organ being filled with urine, those of the larynx, and so on. In most of our examinations we test the tendinous reflexes. The tendon-reflex can be tested anywhere that a tendon can be got at. Upon the leg you can tap the tendo Achillis. The most commonly used and most convenient place of testing the tendon-reflex is at the knee. If we tap upon the hamstring tendons we get a movement backward. The tendon of the quadriceps extensor femoris, or ligamentum patellæ is always an object of investigation, and striking it causes a partial extension of the leg. In certain spinal diseases no reflex movement is there present; in other conditions of the cord there is increased reflex at the knee. The best way of judging this is to use at first a minimum amount of force in tapping the tendon, increasing it as necessary to develop the reflex movement. Dr. Gray, of Brooklyn, made some interesting experiments three years ago, upon some of the students of the Long Island Hospital Medical College. as to the normal tendon reflex at the knee. He found it absent in two or three individuals out of a hundred healthy subjects; and I have seen similar exceptions.

*Disorders of sensibility.*—Here we come in contact with the consciousness of the patient—the ego of the patient, and we are, to a certain extent, at his mercy. In children this part of the diagnosis is limited to a very great degree on account of their inferior intelligence. For example, the sense of sight cannot be fully tested in these little patients, and when testing common sensibility we have to pinch and tickle them, and make use of other coarse tests. The special examination of the eyes and ears I will pass over for the present.

We will now consider the perception and localization of simple contact such as produced by the finger or a feather. The patient's eyes being closed, we touch him slightly in different parts, and ask him if he feels, and where he feels the contact.

The question of "muscular sense" is an involved one. Some believe that the muscles have no proper sensibility, and that we know our muscular movements by psychic estimation of the force employed, yet there are some persons who cannot feel a tap or

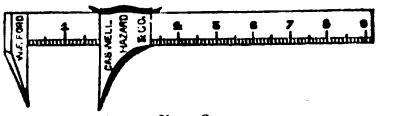


FIG. 3.

prick upon the skin of the leg, yet will feel firm pressure made upon the calf. There have been instruments devised for determining the amount of weight in grammes which a patient can distinguish. We test sensibility to pain in various ways. The use of the hot iron and matches I object to. We are not allowed, in an examination, to adopt such methods as will result in scars. A faradic wire brush is harmless, produces no scar, and is really more painful than cutting or burning, as I have repeatedly seen; and a clean, sharp needle is not objectionable.

The brothers Weber, of Leipsig, gave us forty years ago a form of æsthesiometer, which is much like a shoemaker's rule, with one end stationary (see Fig. 3). Another form of æsthesiometer is made like a compass, with or without a vernier (see Fig. 4). All æsthesiometers should have dull points. Dr. Birdsall has devised an improvement upon the former instrument. It consists in the attachment of a

* Description of a Peculiar Paraplegiform Affection. Archives of Scientific and Practical Medicine, No. 2. New York, February, 1873.

† Clinical Lectures on Paralysis, etc. London, 1856. p. 257.

‡ Topische Diagnostik der Gehirn-Krankheiten. Berlin, 1879, pp. 59–61.

point at one end of the instrument, so that a patient can be pricked at will. We know from Weber's researches the distance at which two points of the

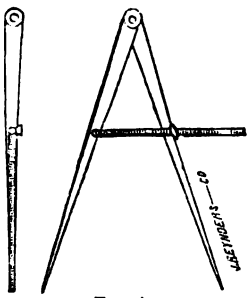

Fig. 4.

æsthesiometer can be distinguished on all the parts of the body. The following are some of the more important according to Valentin: *

| | Millimetres. |
|---|---|
| At the tip of the tongue | 1.00 |
| " palmar surface of tips of fingers | 1.50 |
| " " " " second phalanges | 3.24 |
| " " " " first phalanges | 3.44 |
| " dorsum of the tongue | 5.22 |
| " dorsal surface of fingers | 8.12 |
| " cheek | 9.46 |
| " back of hand | 14.50 |
| " skin of throat | 17.27 |
| " dorsum of foot | 26.10 |
| " front of sternum | 33.07 |
| " middle of back | 50.43 |

In estimating pathological conditions I am in the habit of making considerable allowance for normal variations. The points are to be applied to the surface of the skin simultaneously. This requires a certain degree of expertness on the part of an operator, and in order that the translation of the impressions be correct, some degree of intelligence on the part of the patient is required. In testing the tongue, the patient is to indicate the answer by holding up one or two fingers. With the thumb and forefinger you can increase or decrease the distance between the points.

One word about motor and sensory tests with a battery. For this purpose, either a faradic or galvanic current can be used. We use both currents for testing the condition of the connection between the nervous centres and the peripheral organs. I can only formulate a general law, and it is this: that in cases of disease of the brain in which the spinal cord and nerves continue to act upon the muscles, even though the will has no influence over them, the electrical reactions are preserved. In cases of certain spinal lesions, especially in transverse lesions, the same law holds true.

The affections of the spinal cord which destroy or involve the gray matter of the anterior horns will be accompanied, within a week or two weeks, by a loss of reaction in the paralyzed muscles and their nerves; whereas, with a lesion of the spinal cord which leaves a certain part of the gray matter below the lesion uninjured, even though it be but half an inch, we will get reactions in those muscles connected with the healthy part of the cord. In cases of injury to the spinal cord very low down, which destroy the lumbar enlargement, the muscles of the paralyzed legs undergo atrophy and lose their reaction to faradism. With a destructive lesion of the cervical enlargement, the same occurs in the hand and arm. The law may be stated in the following words: destructive lesions of the gray matter of the cord abolishes faradic reaction in the associated or dependent muscles. The same law is applicable to so-called peripheral paralysis, in which the nerve-trunk has been divided or crushed. Hence, you see there is nothing pathognomonic determined by means of the electrical test: it is of conditional value.

I would like to say something about the use of the ophthalmoscope. I consider its use of great importance in the study of nervous diseases; yet I feel that too much has recently been claimed for it. I would urge all of you to learn to use it and to recognize the healthy fundus. By so doing you will get negative information; and you should also learn to recognize atrophy of the optic nerve, neuro-retinitis, or choked disc, and the retinitis of Bright's disease. These signs are positive and valuable indications of disease. It has been claimed that by the ophthalmoscope we can determine the condition of the intracranial circulation, judging of this by the state of the retinal vessels. This I do not believe to be possible, partly because of the great normal variation in the circulation at the bottom of the eye; partly because the varying appearances of the vessels, according to the condition of the refraction of the eye; and lastly, because it is not at all certain that there is any correspondence between the retinal and cerebral circulations. I am supported in these statements by leading oculists, who consider it a delicate task to decide whether a retina be hyperæmic or anæmic.

* For a complete table in lines (about 2 mm.) consult Flint's Text-Book of Physiology, p. 753, New York, 1881.

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New York Medical Students.—The number of medical students this year in New York is approximately, as follows:

College of Physicians and Surgeons, 473; University Medical College, 580; Bellevue Hospital Medical College, 415; Women's Medical College, about, 40; total 1,508. Besides this, there are about 90 veterinarians, and about 100 homœopathic and eclectic medical students, male and female.

We notice in the *Philadelphia Medical Times* that the University Medical College holds its own in numbers, despite the requirements of a preliminary examination. Jefferson Medical College, on the other hand has, according to the same authority, a diminished class.

It is gratifying to learn that the University Medical College of Philadelphia is succeeding well in the stand for higher education that it has taken; also to learn that the College of Physicians and Surgeons of this city, has every reason to be satisfied with the advance in requirements which it has adopted. It is to be hoped that New York will soon have a college that is on a level with what Boston and Philadelphia present to us.

Quacks in Illinois.—At the last meeting of the Illinois State Board of Health, it was stated that twenty-three practitioners had been compelled to leave the State because of inability to comply with the law. It was voted not to recognize diplomas coming from the College of Physicians and Surgeons at St. Joseph, Missouri.

# Original Communications.

## A DISSENTING VOICE FROM THE STANDPOINTS TAKEN BY D. W. BLISS, M.D.,

### In Regard to the Diagnosis, Prognosis, and Treatment of the Case of President Garfield.

By E. B. TURNIPSEED, M.D.,

COLUMBIA, S. C.

It is, perhaps, due the profession and the public that I should apologize for thus seemingly thrusting my opinions upon them at a time when the family of the late President is enshrouded in grief, and the distinguished surgeons in charge acknowledge their utter defeat in the surgical treatment. I falter when I think of the grave responsibility and my incapacity for so great a task, and console myself with the hope that it is only by discussing the important questions involved that truth can be reached and the ultimate advancement of the science of surgery promoted.

The whole question is, in a nut-shell: Is this modern surgery? Can all the resources of modern surgery do no more than was done for an unfortunate man shot down as poor President Garfield was? If this be true, we should invoke the manes of the great French surgeon, Velpeau, and cause to be echoed and re-echoed throughout this broad land his dying words to the young physicians who surrounded his bedside: "*Travaillez! Travaillez toujours!*"

*Diagnosis.*—Before probing the wound at all, the relative positions of the assailant and the assailed should have been accurately investigated, and, if possible, ascertained. This could have been immediately done, it seems, as Guiteau himself, in his confession, states: "I stood five or six feet behind him, right in the middle of the room, and in a diagonal direction from the President to the northwest."

Much has been said about the deflection of the ball. Doubtless, if an imaginary line had been drawn from the muzzle of Guiteau's pistol to the point beneath the pancreas, where the ball lodged, it would not have deviated much from the track the ball had made in the body of the President from its entrance to this point. But suppose it varied greatly. All military surgeons ought to know that, let a ball meet whatever obstructions it may in its transit through the body, it always will, after passing them, tend to resume its march in the line in which it leaves the muzzle of the gun or pistol. To illustrate: I have known soldiers on the battlefield to receive a ball in the forehead, pass around the head, and take its exit exactly opposite on the back of the head. I have more than once known soldiers to receive balls at some point of the sternum, opposite the union of a rib, pass around the body, following the rib, and make its exit exactly opposite on the back, making it appear that the man was shot through and through his chest.

I could give more evidence on this point, but do not think it necessary. Of course, when it penetrates bone the resistance may deflect it; but the amount of deflection is in inverse ratio to the power or force with which the projectile is sent, as well as the distance the assailant is from the assailed.

I think I can say it is an axiom in military surgery that, if you grant *sufficient force* to the projectile, it matters not what the resistance may be and what amount of deflection, it will resume the original line of march after passing the obstructions. Therefore, I conclude, when coupling the relative position of Guiteau to the President with the fact that the pains in his feet and legs indicated either injury to the spinal cord or shock of the spinal column, the surgeons would have been justified in locating the ball either in or to the left of the spinal column, and I have been reminded by citizens here that I then stated that to be my opinion.

It seems that Dr. Bliss made no effort, when first called to the President, to ascertain the relative position of Guiteau to the President at the time he received the shot, and this is evidenced by the direction in which he persistently probed for the track; and it seems, further, that his efforts may have resulted in making one or more false passages, as he says: "After withdrawing my finger I made an exploration with a long, flexible silver probe, which I suitably curved before entering, and gently passed it downward and forward and downward and backward, and in several directions." He does not say how far he introduced the probe, but the resistance to the small silver probes once entered between the muscles, or fascia and muscle, is so little that I know full well by experience very slight pressure will force them to their full length.

It appears, however, whether the probing did it or not, the pus burrowed just in the direction in which he probed. My impression is, had the doctor taken into consideration that the ball was fired in a diagonal direction from right to left, and had he used a probe of coiled steel slightly smaller than the track, pressing it gently but continuously to the left, as plainly indicated by the position Guiteau held relatively to the President, he would not have failed to have entered and followed up the direction of the track, and, with such an instrument as I will hereafter describe, could have reached and located the ball.

This instrument is yet unknown to the profession, and but for reasons—also hereafter given—would have been at his service.

It seems that the surgeons in attendance upon the President are consoled as regards the injury he might have sustained from the presence of the ball by asserting that they found, after the autopsy of the body, that it had become encysted. Ordinarily these balls give no serious trouble, but from time to time we meet with those that, although encysted for years, give *great trouble*. I remember a young prince, an aid on the staff of Count Osten Sacken during the siege of Sebastopol, who consulted me in regard to the propriety of removing a pistol-ball, lodged and encysted in the lumbar region, which caused him at times much pain and inconvenience in performing his duties. It had been received in a duel some eight years previously. I have now a case of encysted musket-ball, received during the late civil war, in the glutei muscles, to remove when located. He is a railroad man, and at times it incapacitates him for business.

These encysted balls that give trouble doubtless are located near the trunk of some nerve-sensation, or in the midst of a network of their sentient extremities.

As there was no loss of motion or sensation, it was evident that there was no permanent or serious injury to the spinal cord, but that the pains in his feet and legs were caused by the shock the spinal column had received, and I cannot conceive how the surgeons

consented to believe the ball did not reach the spinal column, and how they could be satisfied, with the knowledge of the position of the parties and the laws of motion as applied to missiles, that the ball was deflected from a diagonal to a straight line, and passed in this line of march the distance, perhaps, of eighteen inches, I will venture the opinion that no such thing ever did take place.

*Prognosis.*—President Garfield's case was not necessarily fatal. He naturally was a man of large, fine physique; never was dissipated; was in good health at the time of injury, and the promptness with which his system responded to all efforts used by his surgeons to bring about reaction were favorable, in the abstract, to the highest degree.

*Treatment.*—Of course, in my remarks I will confine myself to the surgical management of the case, and perhaps I cannot meet the inquiry of the profession at large better than just to answer the questions of Dr. Bliss that are pertinent to these points.

*First.*—Would the condition of the President, immediately after his injury, have justified a more thorough exploration of the wound, or would such a procedure have been safe at any time before primary reaction was established? He acknowledges in question fourth that reaction was comparatively complete on the 3d of July, and this, in my humble opinion, was all that was necessary to have accomplished what I will hereafter demonstrate could have been done—the removal of the ball and establishment of such drainage as would have relieved the track and neighboring parts of all pus, and thus have avoided septicæmia.

Questions second and third it is not necessary for me to answer. Of course the surgeons were the best judges in these matters. In question fourth he seems to attach much importance to the probable production of hemorrhage if the wound had been probed on the 3d of July, after reaction had taken place. Well, suppose it had! How could so small a track, as it then opened into no cavity, give exit to blood enough to kill such a powerful man? Would not the blood have coagulated all along the track after removing the instrument, and thus plugged up the bleeding vessels? And if the surgeons found there was too much bleeding, could they not have devised means to plug up with some foreign substance enough of the track to arrest the hemorrhage? Of the two evils, that of failing to locate the ball or encountering hemorrhage, which was the lesser?

*Fifth.*—In regard to delay for the consulting surgeons' arrival: if they had not the proper instruments, or were unwilling to assume the responsibility, and did not have the required help in Washington, then delay was justifiable; otherwise, not.

*Sixth.*—If the ball could not be located, of course it would have been unjustifiable and reckless surgery to cut in search of it.

*Seventh.*—As to the innocence of encysted balls, I have given my opinion above.

*Eighth.*—If ever the ball had been located any time during the President's illness, it would have been unjustifiable and hazardous to cut it out, either from the front or rear; but I firmly believe that my bullet-forceps would have followed the tortuous track, seized and brought out the bullet at the point of its entrance.

To the ninth question I would answer, that the dietetic treatment and nursing were superb; but in the surgery, omission of points, which, if observed, would have probably resulted in recovery.

*Tenth.*—The mistaken diagnosis, in my opinion, was not a natural result of the condition present, but in consequence of, first: not weighing the point of the relative position of Guiteau toward the President at the time of firing, which was undoubtedly diagonally toward his right, the ball making almost the same angle from right to left *after* penetrating the body that it did when passing through the air; and also the pain in the feet and limbs, which was an evidence of shock, at least to the spinal column.

*Eleventh.*—The surgical treatment should have been different, either with or without the knowledge of the locality of the ball.

I will now conclude my article by giving briefly my opinion of the surgical treatment, and describing, with two woodcuts, two instruments of my invention, one of which would have located the ball and indexed its depth from the surface of the body; while the other would have seized and brought it out by the channel of entrance.

I may be met at the threshold by Dr. Bliss with the assertion that no such instruments were then known to the profession, and I might have been induced, under different circumstances, to offer suggestions.

These instruments were invented before the dastardly attempt upon the life of the President, and I had no disposition to withhold them from any services they might render suffering humanity where the dignity of our noble profession was not compromised.

I will now first describe the probe or indicator (*vide* Fig. 2). Its total length, including the handle, is thirty-two inches; length of cylinder, twenty-three inches; diameter, three-sixteenths of an inch.

It is made of coiled or vertebrated flattened steel; the piston is made of cable-wire, with a needle eight inches long and about the size of an aspirator-needle at the extreme end. The whole apparatus is sufficiently flexible to pass any angle a bullet is likely to make. When the ball is reached the sensation of touch or rebound against the end of the cylinder will indicate it. Then the needle which is attached to the end of the wire is forced out at an opening in the end of the cylinder, and instead of going straight, describes the arc of a circle as it passes through the tissues intervening between the ball and the surface of the body. The scale on the handle of the piston nearest the operator being of the same length as the needle, marks the depth of the ball from the skin. Once the ball is found, the needle is used as a director in cutting down to it. The bullet-forceps or extractor (Fig. 1) is similarly constructed of coiled, flattened, or vertebrated steel of the finest material; the sheath is twenty-six inches, including handle; the cylinder alone, twenty-two inches; diameter, five-sixteenths of an inch; the piston is of cable wire, and at the end farthest from the operator are four wedge-shaped jaws, the length of a Minié ball, each jaw having on its inner surface, near the point, an inverted barb, similar to that of a fish-hook. The jaws are made to open and fold by means of a beautiful joint. Forceps that open with a hook at right angles to the jaw, such as those invented by the Messrs. George Tiemann & Co., can never seize a ball, as the soft parts would have to be forced asunder at that point in order to make room for the hooks to be imbedded in the lead; and if it were possible to seize or hook the ball at its very base, I am quite sure, with the force necessary to use the hooks, they would be broken or tear out their hold.

The wedge shape of my invention, I find, after

much study and experimenting, is the only one that will do at all, as they can be passed between the lead and soft parts in a ball of any size.

The inverted barbs are more firmly and deeply imbedded in the lead the greater the force used in traction.

I cannot conceive of any complications whatever

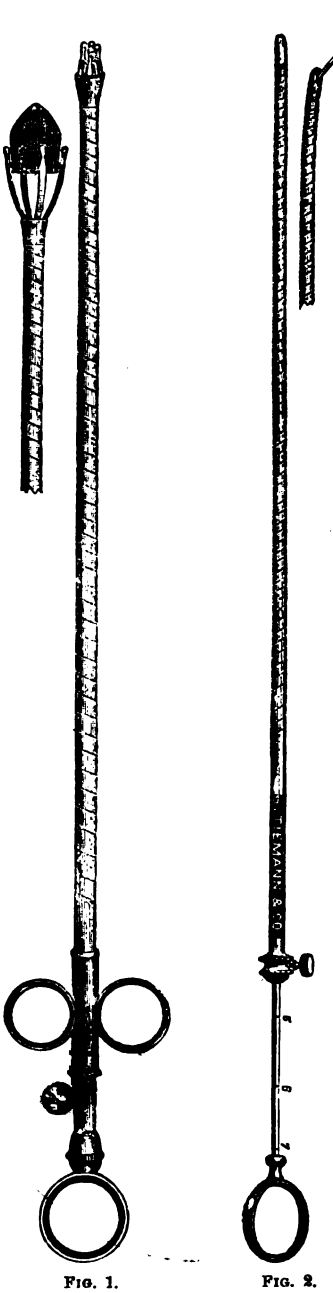

FIG. 1.

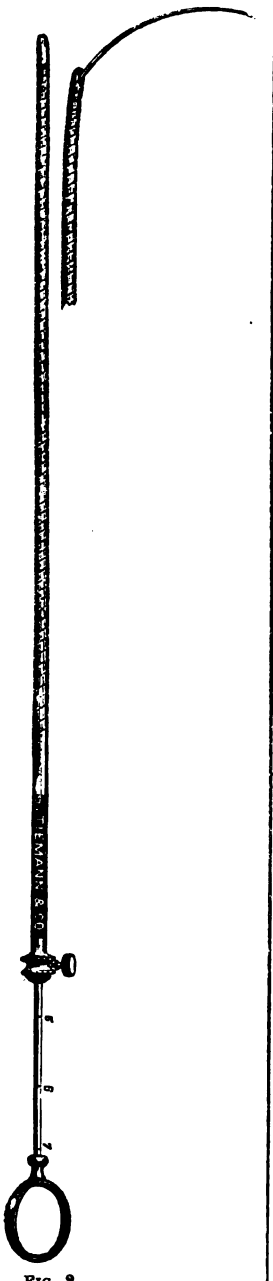


FIG. 2.

that would cause this instrument to fail in extracting any ball.

I firmly believe the instrument first described would have located the ball in President Garfield's case, the probing, of course, directed by a knowledge of the position of Guiteau to the President, as well as the injury sustained by the spinal column, which was indicated by the pains in the feet, etc.

And further, I believe the last-described instrument would have followed the tortuous course of the ball, and seized and brought it out at the line of entrance. Of course, we are all fallible, and I may be considered presumptuous by the profession; but I have a firm conviction that time and a full test of these instruments will prove the correctness of my assertions.

This instrument, with the piston removed and introduced from time to time, also with proper position of the patient—that of an inclined plane, feet and lower part of body elevated—would have given effectual drainage to the wound, and probably prevented septicæmia. To the Messrs. George Tiemann & Co. are due the thanks of myself and all who agree with me for the perfect working of this instrument.

This instrument can doubtless be effectually used to extract foreign substances from the air-passages, stomach, and bladder, as well as polypi from any of the cavities of the body.

*Autopsy.*—It would seem that the autopsy was unsatisfactory, as Professor Weisse, who made the report for publication of the surgico-anatomical study of the wound, by request of Dr. Bliss, indicates, when he says: "It is a matter of great regret that the autopsy was not made from the back instead of the anterior plane of the body."

The French method of making post-mortems I think preferable to the English, the one adopted.

It is not necessary to go over the lesions anatomically in detail. Suffice it to say that, although it is claimed that there was no communication between the large pus-sac—four by six inches—immediately under the peritoneum, and opposite posteriorly to the right lobe of the liver, and the track of the ball, yet may not the opening have been closed by adhesions during his long illness?

Further, I cannot understand how the bullet in its transit directly caused the aneurism, as the latter is ordinarily caused by the rupture of the internal coats of an artery. May it not have been caused, too, by sloughing, the effect of defective drainage, as it seems this part of the track was dilated by pus?

It may be inferred from what Professor Weisse says that the ball was not found "in situ," and therefore the cyst alone, torn, without the presence of the ball, would furnish unsatisfactory evidence in regard to its likelihood of giving no trouble. Also we are told that the large pus-sac under the liver was ruptured before its relative position to the bullet-track was ascertained.

*Conclusions.*—President Garfield's case, although an exceedingly doubtful one, was not necessarily a fatal one. My opinion is that, had the position of the parties been clearly determined, and the necessary importance attached to the pains, which presented themselves immediately, manifestly indicating injury, whether permanent or not, to the nervous centre; and had a large probe of coiled steel or vulcanized rubber, metal-tipped, been used, the direction of the ball-track would have been found. Once found, it could have been extracted through the same canal made by entrance by means of such instruments as presented in this paper; and, the bullet once removed, the position of the patient should have been that of an inclined plane—say forty degrees elevation of his feet and lower part of body—several hours during the twenty-four, which, with the occasional introduction of a catheter of coiled or vertebrated steel or vulcanized rubber, the whole track washed out daily with a solution of carbolic acid, five minims to an ounce of water, would have fur-

nished sufficient drainage for all pus-accumulations, and, if there were any shut sacs of pus, would have prevented their contents from burrowing in an opposite direction, probably forcing an opening into the bullet-track, or pointed where an opening could have been safely made with the knife.

The very healthy condition of the patient at the outset, and the great struggle made by his constitution for life, was clearly demonstrated by the bony union of one or more of the fractured ribs, and the effort at reparation revealed by the autopsy.

Some may ask what would have become of the fractured vertebræ and spiculæ of bone in the vicinity of the tracks at various points.

As a full answer would extend this article, already too long, I refer them to the literature of the profession, to be convinced of what nature, diet, medicines, and the knife have accomplished in wounds when the lesions were fully as grave.

October 29, 1881.

## A CONTRIBUTION TO THE RELATION OF URETHRAL STRICTURE TO SEXUAL DEBILITY.

By GEORGE M. SCHWEIG, M.D.,
NEW YORK.

Any contribution, be it ever so slight, to a subject that engages the daily attention of almost every physician, requires no apology. My object in reporting aphoristically the following three cases, is to direct the attention of the profession more strongly to the etiological relation that urethral stricture bears to the deterioration of sexual power. Cases of debility or complete impotency in the sexual sphere are so frequent, their mental, moral, and physical results so disastrous, that a recognition of the true etiology, and consequent possibility of proper treatment of each individual case, are matters of the highest importance both to physician and patient. Do not let me be understood to advance the theory that all cases of sexual decline are due to stricture, or, on the other hand, that all persons with stricture must necessarily, sooner or later, become impotent. I have, on the contrary, seen persons who had for years had multiple urethral stricture in the full possession of undiminished virile power. I must maintain, however, as the result of extended personal observation, that the two conditions very frequently coexist, the history of the respective cases, both before and after treatment, pointing to the stricture as the cause, the debility the effect, the resisting power of the spinal cord being a law for each individual case, and governing, generally speaking, the frequency of their occurrence. It is in such cases that the lesson taught by the following clinical report may aid in forestalling a long-continued useless treatment, detrimental both to the well-being of the patient and the reputation of his medical attendant. I have selected three what appear to me typical cases, the details of which will appear familiar to every physician as counterparts of some of his own.

Case I.—Mr. M ——, aged thirty years, merchant, single, applied to me for treatment in June, 1879. Had for several years been gradually losing sexual desire, without, however, losing the power of erection. At rare intervals, from an idea that it was necessary to his health, he indulged in sexual intercourse, which was invariably followed by headache and general prostration that continued throughout the next day. Had gonorrhœa some years previous, which was soon followed by the rational symptoms of stricture. Was under the care of two physicians in Germany (whence he had but just returned), one in Frankfort, the other in Hamburg. They had both passed bougies and sounds, without, however, obtaining any but palliative results. I found a stricture at five and one-fourth inches, admitting with difficulty a No. 16 fr. bougie. The radical removal of this stricture was at once begun, and completed in a short time. It was followed by a gradual and eventually complete recession of the phenomena above indicated. The patient, whom I saw very recently, has married, and enjoys normal health.

Case II.—Mr. J——, aged twenty-five years, musician, single, came to me January 8, 1881, with the following history: Was well until about eighteen months ago. Since then experienced gradual loss of erectile power. Within the last six months his condition had been rapidly becoming worse, until of late the erectile power had entirely gone. Had gonorrhœa four years ago. Complained of constant soreness, amounting at times to decided pain, in lumbo-sacral region of the back. Had a variety of treatment at the hands of Boston and New York physicians, without the slightest benefit. A physical examination revealed some tenderness on pressure of the lower vertebræ, also contracted meatus, admitting with difficulty a No. 17 fr. bulb. With this I could detect no stricture, nor were any of the rational signs of stricture present. For two months I endeavored, by means of internal medication, galvanization of the spine, faradization of the genitals and erector muscles, and the persistent use of the cold sound, to improve his condition, but without avail. In the absence of any signs of organic spinal or cerebral disease, and recollecting the gonorrhœa, I had very strong suspicions of stricture, and induced the patient to allow me to enlarge his meatus sufficiently to introduce a large-size bulb. On doing this, my expectations were fully realized. I found two strictures of large calibre, one at five and the other at six inches. Their radical removal, which was at once begun, was followed by no immediate change in his condition; but treatment similar to that which before the removal of the strictures was entirely barren of results, now served, in a period of about six weeks, to restore him to normal health.

Case III.—Mr. R——, aged forty, merchant, single, presented himself February 15, 1881, with the following history: Had syphilis, both primary and secondary, about twenty years ago; also, about the same period, had gonorrhœa. For the last eleven years his health has been good, until within a year, when a gradual decline of virile power began, which culminated a few months ago in its practical loss. When attempting coition there was either no erection at all, or one so imperfect as to be unserviceable. There was not a single rational symptom of stricture, and he was unwilling at the time to submit to an examination. I gave him the usual treatment, both medicinal and electrical, for a month without effecting any change. On March 17th he finally submitted to a urethral examination, which revealed two strictures, one at five and one-half, the other at six and one-fourth inches. His meatus being somewhat contracted—sufficiently so to form an impediment to the radical removal of the strictures—I informed him that it would be necessary to slightly enlarge this. It took him upward of two months to muster up courage to have this done, during which time I did not see him. Finally, on May 27th, he reappeared and submitted to the operation. The strict-

ures were soon disposed of, and I told him to do nothing further, but go to the seaside in the summer, which he did. He called again at the end of August, and said he was as bad as ever. I gave him a mild tonic and told him to have patience another month or two, when I expected he would find himself all right. This prognostication proved correct. On September 28th he called to tell me that within the last two weeks a rapid change for the better had taken place, until, as he had abundantly satisfied himself during the last week, his sexual power was completely restored. To quote his own words: "I have never been stronger in my life."

The above cases speak for themselves. The constant irritation of the urethra that accompanies stricture, the transmission of this through the terminal nerves to the spinal cord, the consequent gradual exhaustion of nerve-force and energy (spinal neurasthenia), that makes itself felt in one or more of the organs that draw their nerve-supply from the affected portion of the cord, are sufficient explanation, physiological as well as rational, of the train of morbid phenomena under consideration. Further corroboration of this may be found in the circumstance that the good results obtained in these cases by the cure of the strictures are never immediate, but appear to accrue from a gradual recuperation of the spinal cord, consequent to the removal of the irritation; the time required for this recuperation, as well as its degree, vary with individuals.

322 East Fifty-Second Street.

## PRIMARY EPITHELIOMA OF LARYNX BELOW VOCAL CORDS.—UNIQUE CASE.—BILATERAL PARALYSIS OF LARYNGEAL ABDUCTUS.—DEATH.

By D. BRYSON DELAVAN, M.D.,

NEW YORK.

Male, aged fifty-four; married; French; laborer. No history of rheumatism, syphilis, or intemperance. Three years before admission to New York Hospital first noticed that voice was becoming hoarse. Four months before admission this hoarseness increased rapidly; began to suffer also with cough and pain in chest, both of which became more and more severe. When first observed, patient appeared moderately well-nourished. Appetite fair; no marked debility There was complete aphonia. Complained chiefly of pain in chest and cough, the latter attended with slight mucoid expectoration, and much worse at night. Physical examination revealed wheezing sound in larynx, heard both in inspiration and expiration. No pain in larynx on pressure. Chest barrel-shaped; prolonged expiratory murmur heard all over it. Dry friction râles upon left side inferiorly. No œdema of extremities. Urine slightly albuminous, but contained no casts. *Laryngoscopic* examination showed thickening of the laryngeal mucous membrane—more marked in the right false cord, which projected nearly to the median line and partly covered right true cord. Respiratory movements of right side of larynx wanting. (Unilateral paralysis of abductor muscle.) Intense congestion of both true cords. Movements of left side of larynx apparently normal. Glottic opening sufficient for ordinary respiration. Nothing discovered in trachea. Three days after above observations the dyspnœa, slight at first, suddenly increased and patient showed symptoms of approaching cyanosis. Breathing became labored, especially in expiration. Respiration 33; pulse 130 and strong. Tracheotomy was performed as speedily as possible, and without difficulty, but œdema of the lungs supervened, and death resulted from failure of the heart's action within six hours of the operation.

*Autopsy.*—Body fairly nourished. Rigor mortis well marked. Slight œdema of both lower limbs.

*Thorax.*—Extensive old adhesions, both pericardial and pleuritic.

*Heart.*—Large and flabby. Muscular tissue pale and yellowish; left ventricle dilated; valves competent; patches of atheroma in mitral valve and in aorta.

*Lungs.*—Both very œdematous. Mucous membrane of bronchi much thickened; bronchial glands not very large; trachea and bronchi contained frothy mucus.

*Larynx.*—Two upper rings of trachea cut. (Tracheotomy.) Condition of mucous membrane in neighborhood good. Both vocal cords eroded and roughened, the true and false cords being fused together on both sides. Beneath right cord projected a growth about one-half an inch in diameter at its base and five-sixteenths of an inch thick, the surface of which was nodular and consistence firm. The position of this growth corresponded to the lower fifth of the right ala of the thyroid cartilage above, extending downward over the right segment of the cricoid and backward to the anterior and inner border of the right crico-arytenoid articulation. It was completely overhung by the right vocal cord, so that its presence could not have been recognized during life. Careful dissection of the right crico-arytenoid articulation showed that the articular surfaces of the joint were in an apparently normal condition. There was marked thickening of the fibrous structures surrounding the joint, however, and an erosion of the surface of the cartilage at the outer angle, corresponding to the insertion of the crico-arytenoideus muscle. In the abductors themselves no structural changes were observed.

At *pylorus* was a cluster of enlarged lymphatic glands, some of which were cheesy at their centre.

*Kidneys.*—Both small; surfaces granular; cortex much atrophied; some urates in pyramids.

*Liver.*—Increase of connective tissue everywhere.

All other organs normal.

*Microscopic* examination of a section taken from the centre of the laryngeal tumor revealed large openings in very young connective tissue, which were filled with flat epithelial cells. In some of these openings epithelial pearls were found.

The case presents several points of especial interest:

*First.*—Its great obscurity. There were no symptoms demonstrable which might not have been caused by a severe chronic laryngitis or by tubercular laryngitis, while the symptoms common to cancer of the larynx, with the exception of laryngeal stridor and cough upon lying down, were entirely wanting. There was no dysphagia; no reflex pain in the ears; no ulceration. No nodules were visible by laryngoscopic examination; and there was no enlargement of the cervical lymphatic glands.

*Second.*—Epithelioma originating in the locality described above is extremely rare. Of fifty-three cases of cancer observed by Morell Mackenzie, but one (variety not named), arising from the posterior broad surface of the cricoid cartilage, at all resembles it; while of seven cases reported by Cohen, and of eleven by Fauvel, there is not one. Von Ziems-

sen, who has collected fifty-seven cases of primary laryngeal epithelioma, says, "the seat of cancer is almost invariably the upper and middle portion of the laryngeal cavity." He, also, mentions no case in which it occurred below the cords.

*Third.*—The nature and extent of the paralysis caused by the tumor, and its influence upon the patient's life. The œdema of the lungs, which was the immediate cause of death, was the direct result, evidently, of stenosis of the larynx, and this stenosis must have been due to one of four causes: 1st, occlusion of the trachea by the tumor; 2d, œdema; 3d, anchylosis of the right crico-arytenoid articulation, complicated with œdema; 4th, bilateral paralysis of the abductors. Examination, both before and after death, failed to demonstrate that either of the first three causes were present to a sufficient degree to seriously impede respiration, nor had the unilateral paralysis of the abductors, which had existed for a considerable length of time, produced more than a slight degree of dyspnœa. From the suddenness with which urgent dyspnœa was developed, there can be no reasonable doubt but that it was caused by an extension of the paralysis to the opposite abductors, *i.e.*, to *bilateral* paralysis of the crico-arytenoidei postici, a condition which, in the present instance, can only be accounted for by the theory held by Dr. George Johnston, of London, and others.* The presence of the tumor was sufficient in itself to have caused irritation and paralysis of the nerve-filaments which supplied the *right* crico-arytenoideus posticus, while the paralysis of the left side was due, in the absence of any peripheral cause, to "an influence propagated through the afferent fibres of the compressed and irritated vagus to the nerve-centre, and thence through the efferent fibres of the other vagus to the muscles of that side."

*Fourth.*—The importance of the early performance of tracheotomy in paralysis of the abductors.

The larynx was exhibited at a regular meeting of the New York Pathological Society, and is now deposited in the Pathological Museum of the New York Hospital (specimen No. 1559).

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SMALL-POX INCREASING.—Small-pox is said to be increasing in the city. The City Board of Health has sent a circular to all physicians, asking their co-operation in getting rid of it. There is also an increasing demand for vaccine points from suburban officials. Two thousand points were sent to Rochester this week, owing to an outbreak of small-pox there, and demands for virus have come from Jersey City, Rahway, Paterson, Buffalo, and Essex County, Conn. Small-pox has appeared along the Delaware Valley between Port Jervis and the Delaware Water Gap. The source of infection is supposed to be Italian laborers, who are working on a railway in Sussex County, N. J., as an Italian, stricken with the disease in its worst form, who came from a place near Deckertown, died in the Reception Hospital in this city last week. The State Board of Health contemplates the establishment of a vaccine farm in a neighboring county in this State. At present the animals from which the supply of virus for this city and the correspondents of the sanitary officials is taken, are on a small farm at Clifton, near Passaic, N. J.

* British Medical Journal, December 19, 1874: The Physiology of Spasm and Palsy of the Larynx.

# Reports of Hospitals.

## HOSPITAL NOTES.

### DOUBLE BODIED UTERUS—RETENTION OF MENSES—UTERO-ABDOMINAL FISTULA ESTABLISHED.

THE following case occurred in the service of Dr. T. G. Thomas, at the Woman's Hospital. The patient, a Frenchwoman, had been suffering for sixteen years from what was supposed to be a fibroid tumor of the uterus. At every menstrual epoch she was tortured with pains which almost drove her to insanity. She had been under the care of a Parisian physician for a number of years, but failed to obtain relief. When she came into the hospital the tumor had attained the size of a child's head. She had always menstruated through the vagina; the uterine cavity measured from two and one-half to three inches. Dr. Thomas declined to remove the growth, thinking that such procedure would cost the patient her life, in which opinion he was supported by his colleagues, Drs. Emmet and Hunter. The woman, however, persisting in having an operation performed, it was consequently determined to remove both ovaries. The tumor was cut down upon, and on examination gave obscure evidences of fluctuation. Upon tapping it with a trocar and canula, *three pints of menstrual blood*, looking like tar-water, *were drawn off*. The case proved to be one of uterus bicorporeus, the cavity of one of the bodies communicating with the vagina, that of the other being closed. For sixteen years she had been menstruating from both corpora; from one the blood escaped per vaginam, from the other it could only be removed by reabsorption; hence the increase in size of the latter body. Diagnosis before the operation was, of course, an impossibility. The corpus uteri, which had been the source of all the trouble, was then fastened to the walls of the abdomen in such a manner as to allow of injection and drainage of its cavity through the abdominal parietes, the canula being kept in place. After the operation the patient developed a low grade of septicæmia, but subsequently improved, menstruated, and is now doing well. In this case it would have been useless to remove only the ovary of the supernumerary body, inasmuch as the woman would nevertheless have menstruated from both corpora at each catamenial period. Dr. Thomas preferred the procedure adopted to that of removing the ovaries, because the former subjected the patient to less risks. Attention was drawn to the possibility of future insemination through the abdominal opening.

### LIGATURE OF THE COMMON CAROTID IN OSTEO-SARCOMA OF THE SUPERIOR MAXILLARY.

At the Mount Sinai Hospital, Dr. Wyeth tied the right common carotid artery in a case of osteo-sarcoma of the superior maxillary, in order to reduce the pain and diminish the suffering attendant upon throbbing in the orbits. Marked relief followed the operation.

### COMPOUND TINCTURE OF BENZOIN IN FACIAL ERYSIPELAS.

Dr. Bull has revived the above treatment with good success in the erysipelas pavilion at Bellevue. The affected parts are painted with the tincture once or twice a day. As an application to the face he re-

commends sheet lint dipped in hot lead and opium. Instead of poultices in erysipelas of the extremities, he uses oakum soaked in hot lead and opium, and covered with oiled silk. By this means the moisture of the limb is retained, and a soothing influence exerted over the part.

### TREATMENT OF MALARIAL CHILL.

At the Bellevue Hospital the following means are, among others, employed to prevent malarial chill:

1. The hypodermic injection of pilocarpine, gr. $\frac{1}{8}$.
2. The inhalation of gtt. v. of amyl nitrite every twenty to thirty minutes.
3. The administration of chloroform and whiskey, of each ʒ ss.

The excessive diarrhœa of typhoid is said to be remarkably controlled by the administration of gtt. xx. of turpentine every two to three hours.

### LARGE DOSES OF BROMIDE OF POTASSIUM.

The following case may be of interest, considered in connection with others mentioned in this journal, as illustrative of the effects of large doses of the bromides. The patient was a female, aged twenty-one years, suffering from hemichorea. Grs. 610 of potassium bromide were given in three days, viz.: on the first day, grs. 350; on the second, gr. 160; on the third, grs. 100. The movements were controlled, the heart's action was diminished, no bromide rash appeared. The patient suddenly developed delirium, which continued after the bromide was stopped. Subsequently she became apathetic and semi-idiotic.

### TREATMENT OF FRACTURE OF THE PATELLA BY THE WEIGHT AND PULLEY.

At the Presbyterian Hospital there are two cases of fracture of the patella under the care of Dr. Geo. F. Shrady, which are being treated by the weight and pulley. Both fractures are transverse, were occasioned, as usual, by muscular violence, and the fragments were separated three-fourths and one and one-fourth inch respectively. The limbs are elevated on a single inclined plane, and two strong, broad bands of adhesive plaster are applied diagonally to the anterior portion of the thigh, crossing each other just above the patella, and embracing a pad at the upper margin of the upper fragment. These bands terminate in loops on each side of the leg, and are attached to stout cords which pass to a foot-piece and over a pulley to the weights. The lower fragment is merely fixed by a bandage passed around the splint. Extension is made over the entire region of the quadriceps muscle, while the pad applies itself over the upper edge of the upper fragment, bringing it in apposition to the lower fragment. By these means the fragments are maintained in perfect apposition, without discomfort to the patient. Dr. Shrady prefers this method of treatment to any other he has employed.

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Orchitis of Mumps is not a metastasis, but a complication that can be watched for. It occurs only after puberty, and comes on between the seventh and ninth day generally. Its approach is indicated by a rise of temperature which occurs before any pain is felt. By keeping the patient in bed, taking the temperature, and at once applying hot poultices to the testicles as soon as fever appears, the symptoms are greatly mitigated.—Dr. C. Dulges, in *Lancet*.

## Progress of Medical Science.

Etiology of Uræmia.—Astaschewsky has performed a series of experiments on dogs, in which, after tying both ureters, he injected into the femoral vein, on different occasions, large quantities of urine, urea, creatinin, etc. He concludes that urea plays no rôle in the development of uræmia; that creatinin produces only doubtful effects; but that the inorganic constituents of the urine, when injected into the circulation in sufficient amount, give rise to symptoms closely resembling those of uræmia, and often produce a rapidly fatal result. From this it would seem to be apparent that very great importance is to be attached to the insufficient excretion of the inorganic constituents of the urine, particularly the salts of potash, in patients affected with Bright's disease, and that uræmia is essentially a self-poisoning of the system with inorganic substances.—*Allgemeine med. Central-Zeitung*, July 27, 1881.

Significance of Fat in the Urine.—Rassman divides the affections in the course of which fat is found in the urine into three classes: 1st, true chyluria, parasitic, and non-parasitic—in these cases the urine also usually contains albumen, and not infrequently fibrin; 2d, fatty degeneration at some point of the urine-forming or urine-conducting apparatus—to this class belong also those cases where the pus of an old abscess finds its way into the urinary passages; 3d, numerous constitutional affections associated with marked cachexia or dependent on systemic intoxication, such as phthisis, long-continued suppuration, pyæmia, yellow fever, poisoning by phosphorus or carbonic oxide gas, chronic poisoning by turpentine, and severe injuries of the bones. In these cases the blood contains an abnormal amount of fat, which passes off by the kidneys. As a proof of the correctness of this theory, Rassman cites the results noted in a series of experiments performed on dogs, cats, rabbits, and frogs. After injections of oily emulsions into the blood or peritoneal cavity, fat was usually demonstrable in the urine on microscopic examination. At the same time the animals became more or less somnolent, the blood-pressure sank for a time, and the pulse became less frequent. When large doses were injected, death ensued in a short time, the heart becoming arrested in the state of diastole. Similar results were obtained after injections of emulsified oleic acid and oleate of soda in one to ten per cent. solutions. Rassman thinks with Olshausen that these phenomena furnish an explanation of the retardation of the pulse usually noted during the first few days following childbirth; in other words, the retardation is due to fatty degeneration of the uterus and abundant absorption of fat into the blood.—*Allgemeine med. Central-Zeitung*, August 3, 1881.

Nervous Gastralgia Treated by Galvanism.—Vizioli narrates the history of a woman, thirty-five years old, who had been bitten ten years previously by a supposed mad dog. The patient was at first intensely excited, but became calmer after a few days, though she lost her appetite and strength, menstruation ceased, the senses of hearing and smell became abnormally acute, and paroxysmal attacks of intestinal colic set in. The latter became more and more frequent, and so violent as to cause the patient

to shriek with pain, sometimes causing fainting-fits or violent tonic and clonic convulsions. For the relief of the gastralgia, cauterization of the cervix uteri was practised. At this stage, when the affection had existed for more than ten years, Vizioli began to treat the patient with the constant current of twenty-four to thirty-six cells, placing one pole over the stomach. The sittings were given every other day. Amelioration was rapid; after the twentieth sitting the paroxysms ceased altogether, though there were faint reminders when the uterus was cauterized. The cauterizations, however, were continued, with galvanism.—*Med.-Chirurg. Rundschau*, August, 1881.

Treatment of Hydrocele in Children.—Defert's method of obtaining a radical cure in ordinary hydrocele, as published in the *Gaz. des Hôpit.*, 1881, No. 6, consists in evacuating the greater part of the contents of the sac through a trocar, and then introducing, through the latter, a director coated with melted nitrate of silver, with which he touches numerous points on the internal surface of the tunica vaginalis. A certain amount of the nitrate also dissolves in the residual fluid and mildly cauterizes the whole of the internal surface of the sac. The director and canula are then withdrawn. The director is charged by depositing powdered nitrate of silver in the end of the groove for a distance of 2 ctm., and melting it slowly over the flame of an alcohol-lamp in such a way that the caustic shall project slightly beyond the surface and tip of the director.—*Med.-Chirurg. Rundschau*, August, 1881.

Trephining the Ilium in Psoas Abscess.—In some cases of psoas abscess, after an incision has been made in the neighborhood of Poupart's ligament, the discharge of pus is more or less obstructed when patients occupy the horizontal posture. In these cases, when fluctuation can be felt in the loin, or when a probe passed through the incision in a backward and upward direction can be distinctly felt in the lumbar region, it is recommended to make a counter-opening in this situation. Where, however, neither fluctuation nor the tip of the probe can be felt in the loin, Fischer recommends trephining the ilium, and has practised the procedure in one instance. The patient, a man of twenty-four years, had a large psoas abscess on the left side, which had perforated into the hip-joint. After an incision in the groin, under antiseptic precautions, a large amount of pus was evacuated. The discharge continued quite free, but the abscess never seemed to empty itself completely, and fever not subsiding entirely, it was deemed advisable to make a counter-opening in the flange of the ilium. The patient's great emaciation enabled the operation to be performed easily; after incising the soft parts and tying a branch of the superior gluteal artery, a hole ½ ctm. in diameter was cut through the ilium, and quite a quantity of pus evacuated. The discharge continued to flow freely through this opening, none passing out of the incision in the groin. Later a drainage-tube was introduced through the second opening. For a while the patient improved, but a bedsore formed over the sacrum, infiltration in the apex of the right lung made rapid progress, and, after several months, death occurred from exhaustion. Post-mortem examination revealed extensive tuberculosis of the lungs, with caries of the ninth, tenth, and eleventh dorsal vertebræ, and disorganization of the left hip-joint; a small fistulous track remained as residua of the previously existing extensive abscess-cavity. Fischer thinks that the counter-opening in the ilium with subsequent drainage did all that could be expected of it, and that the operation is entirely justified under similar conditions. So far as he knows, it is the first time it was ever performed with this object in view, and he therefore recommends it for further trial. *Med.-Chirurg. Rundschau*, August, 1881.

New Method of Compulsory Alimentation.—When insane patients refuse to take food, Keppelmayer advises the following: the patient, being placed on a perfectly horizontal couch without pillow, one nurse holds the head, another the outstretched arms, and a third the legs. A soft-rubber Jacques' catheter No. 10, with a large lateral opening near the tip, is well oiled, introduced through one nostril, and slowly and gently pushed onward as far as the pharynx. Here it usually meets with an obstruction. Without using any force, very gentle pressure is now exerted until an act of deglutition is excited, by which the catheter is propelled into the stomach. These catheters are of such a length that, when the tip has entered the cardiac orifice, the other end hangs from four to six centimetres outside of the nostrils. A hard-rubber canula having now been fixed in the projecting extremity, a syringe with a capacity of about half a litre, and filled with fluid food, is fastened to the canula and the contents slowly injected into the stomach, after which the apparatus is withdrawn. Should the manipulator lose patience when the catheter is obstructed at the entrance of the pharynx, and use undue force, the tip of the instrument is liable to deviate from the proper course, and suddenly makes its appearance between the teeth. This manœuvre once acquired by a patient, subsequent attempts at catheterization will require particular patience and care, in order to succeed. The chief recommendations of this method of forced alimentation are its simplicity and the impossibility of causing an injury during its execution. Keppelmayer also recommends the employment of large-sized soft rubber catheters, provided with a large, smooth opening at the tip, for administering enemata.—*Med.-Chirurg. Rundschau*, August, 1881.

Observations on the Nephritic Affections that Complicate Pregnancy.—Leyden (*Zeitschrift f. klin. Med.*, Bd. II., Heft 1) recognizes four different classes of kidney affections during pregnancy: 1st. A form incident to and resulting from the peculiar circulatory conditions of the gravid state, so-called "Schwangerschaftsniere." It affects a previously healthy kidney, is not a true inflammation, and consists, anatomically, of fatty degeneration and anæmia of the swollen cortical substance, bearing some resemblance to the second stage of typical nephritis. The clinical features are a scanty secretion of urine, containing a large amount of albumen, and but few formed elements in the sediment. The affection is readily susceptible of complete restitution, albuminuria disappearing a few days after parturition. 2d. Nephritis *ex graviditate s. ex puerperis* — an acute nephritis, characterized by the presence in the urine of a copious sediment, numerous blood-corpuscles, casts, and epithelia. 3d. Pyelonephritis occurs infrequently. The urine contains a large amount of blood and pus-corpuscles, casts, and albumen. These patients complain of backache. 4th. Ordinary acute or chronic nephritis, not dependent on, but simply coexistent with pregnancy. Here œdema usually appears early. The sediment closely resembles that found in the first class of cases, but its characters are more sharply defined; more fat

granule-corpuscles are present, with tough, hard, and glossy casts. It is important to determine whether renal disease has existed before the inception of pregnancy, because, in this event, the disease usually becomes aggravated after parturition, while, as previously stated, the simple "kidney of pregnancy" usually tends to quick recovery.—*St. Petersburger med. Wochenschrift*, September 3, 1881.

INSANITY RESULTING FROM SYPHILIS.—M. Ball has given a *résumé* of Fournier's views on insanity attending syphilis, which, according to that observer, presents itself either as syphilitic dementia, as mania, or as general pseudo-paralysis.

In syphilitic dementia, the patient's temperament undergoes a radical change. His intelligence is clouded and his conduct strange. He becomes moody and taciturn. Labor is fatiguing and intolerable. His memory fails, though judgment often remains. Loss of memory may be either sudden and complete, or gradual and imperfect. The patient becomes careless as to his personal appearance, and very irritable. This condition may be designated as a precocious senility of the mind, differing from senile dementia, however, in being curable.

Syphilitic mania may be suddenly developed or present prodromal symptoms. The latter, when present, consist in a peculiar excitement, feverish activity, and in unusual loquacity. These prodromata terminate in delirium, which may manifest itself in several forms. Sometimes it is active and attended by complete insomnia. The patient becomes destructive, and suicidal tendencies show themselves. The delirium assumes the form of hypochondriasis or syphiliphobia. The patient believes himself persecuted. The delirium is impulsive.

General syphilitic paralysis. This variety of the disease begins with mental hebetude and with incoherencies of speech. The speech may become embarrassed, and stuttering, due to local paralysis, appears. Other partial paralyses, particularly those of the eye, soon follow. The diagnosis is based upon the concomitant symptoms, as headache, alopecia, and gummata, but particularly upon partial paralyses. Strabismus is another valuable diagnostic symptom.

The prognosis is favorable if the case receive prompt treatment, although the disease sometimes terminates fatally. The treatment must be energetic and thorough. At the beginning the mixed treatment is indicated: 5 grms. (75 gr.), at least, of the iodide of potassium should be exhibited daily, and inunctions also employed. If mercury is not well tolerated, recourse may be had to the chloride of gold.—*Annales et Bulletin de la Société de Médecine de Gand*, July, 1881.

A NEW THERMOGRAPH.—Marey announces that he has invented an instrument for the purpose of registering, simultaneously, the variations in animal temperature at two points in the body. The instrument consists of a diminutive Bourdon tube, which is placed in contact with the liquid of a thermometer, and which changes its curve in accordance with the degree of expansion of the liquid in the thermometer. The latter consists of a cylindrical brass reservoir, 6 mm. in diameter and 3 ctm. long. The tube of the thermometer terminates in a capillary tube of copper, which, in turn, opens into the Bourdon tube. The whole apparatus is filled with oil and then closed. The oil expands or contracts under the influence of variations in temperature, and in so doing changes the curve of the Bourdon tube, thus moving the index of a dial attached to the latter. Two of the thermographs just described enable the observer to obtain the respective temperatures of a deep and superficial part, at will. The registering dials are connected by flexible copper wire to the bulbs of the thermometers, and the latter may be placed at any point desired. Simultaneous registration of the deep and superficial temperatures shows that, in vaso-motor disturbances, exactly contrary changes occur in the temperature of central and peripheral parts of the body. In the case of vaso-motor spasm, the periphery is refrigerated and the central parts superheated. On the other hand, vaso-motor paralysis augments the heat of the surface, and cools the interior of the body. In some cases there is a parallelism between the temperatures of deep and superficial structures. Thus, inanition refrigerates, simultaneously, both central and superficial parts, while some diseases augment the temperature of the entire organism.—*Annales et Bulletin de la Société de Médecine de Gand*, July, 1881.

BROMIDE OF POTASSIUM, IODIDE OF POTASSIUM, AND CHLORAL HYDRATE IN THE TREATMENT OF CARDIAC DISEASES.—The views of several recent observers concerning the use of these drugs in heart diseases are collated by Dr. de Renzi.

According to Gubler, the bromide of potassium exerts a remarkable sedative influence upon hearts which are the seat of organic disease. It particularly diminishes their tendency to intermittent action. Dujardin-Beaumetz classes the bromide with the cardiac tonics, and regards it as inferior only in this particular to digitalis. Lee employs the bromide to fulfil the same indication. Renzi attributes the beneficial influence of bromides upon cardiac affections to its sedative and hypnotic effects.

Professors Lee and Renzi strongly recommend the iodide of potassium for cardiac dyspnœa, particularly when referable to parenchymatous rather than to valvular lesions.

Chloral hydrate is used to diminish the frequency and force of the heart's action, but does not lessen cardiac dyspnœa, and must be used with caution, lest it produce deep and persistent somnolency.—*Archives Médicales Belges*, July, 1881.

SANGUINEOUS TUMOR OF THE RIGHT VOCAL CORD.—Dr. G. Coupard publishes, in the *Revue Mensuelle de Laryngologie, d'Otologie et de Rhinologie*, July 1, 1881, a rare case of sanguineous laryngeal tumor. The patient noticed a change in his voice a year before applying for treatment. The difficulty of speech became gradually more marked during a period of six months, and then remained stationary. The patient had always enjoyed good health, and had experienced no pain in the larynx. He had suffered from granular pharyngitis. On laryngoscopic examination the epiglottis was found hyperæmic. The true vocal cords were reddened and had lost their normal polish. A bilobate polypus, without a pedicle and of a bright red color, occupied the middle third of the right inferior vocal cord. It was 8 mm. in length and 6 mm. broad. The polypus was removed by means of the forceps, and four applications of zinc chloride restored the cords to their natural color, and the voice to its former purity.

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NERVE-STRETCHING has been abandoned by Billroth after a fair trial. It does not seem to be making a favorable impression in Vienna.

# THE MEDICAL RECORD:

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## THE TRIAL OF GUITEAU.

SEVERAL weeks ago we presented to our readers the question of Guiteau's insanity. We stated the view of his mental condition, taken by those who believe him insane, and gave the evidence both for and against such a position. Our conclusion, drawn from the facts then at hand, was that he could not justly be pronounced an insane and irresponsible man.

It is a truism, at the present day, to say that between perfect sanity and mania, humanity presents every shade of gradation. From the standard of perfect mental equipoise the mind passes through the different phases of nervousness, eccentricity, narrow genius, criminality, monomania, until we see its entire overthrow in the maniac.

Exactly what place on this line one should fix as the boundary between sanity and insanity no one can tell. It is an arbitrary point depending upon the special character of the expert as well as upon the acts of the alleged insane individual. It follows that in doubtful cases it is in the last degree unwise and unscientific for any one arrogantly to assert the certainty of his own peculiar views. The expert may defend his own position, but may not attack that of others.

Acting under such considerations as the above, we aimed in our previous remarks as much to present the evidence on each side as to make a special plea for either position. Still, a candid survey of Guiteau's history led us, as we believe it has most of our readers, to the belief that the assassin was not an irresponsible lunatic.

We confess that nothing has been brought out since our previous writing which would justify us in changing this position.

The chief additional evidence for the defence consists in brief as follows: The prisoner is alleged, some years ago, suddenly and without reason, to have brandished an axe at his sister and threatened her life. About five years ago, Dr. J. A. Rice, of Merton, Wisconsin, examined Guiteau as to his mental condition. His conclusion was that the prisoner was insane, this opinion being based on the supposed fact of hereditary tendency, the presence of moral defects, and of emotional exaltations. Dr. Rice found no delusions, however. He knew and attended Guiteau's father, but did not think him insane. Further testimony for the defence has been mainly for the purpose of substantiating the various eccentricities or incoherencies developed by the prisoner. That showing the illogical character of his lectures, and his occasional spontaneous outbursts of emotion, deserves the most attention. Testimony from one relative was to the effect that he was sincere, gentle, and humane. On the whole the defence would make him out a man whose moderate intellect was overmastered by vanity and intense religious fanaticism; and whose moral sense was markedly and congenitally deficient. The diagnosis, hesitatingly made, five years ago, was emotional insanity; now it seems to be delusional insanity.

Coming to the other side of the question, we find ourselves writing at a time when everything possible in favor of the prisoner's insanity is being brought forward. We cannot, therefore, in advance of the facts to be educed by the prosecution, attempt to present its side in any completeness. But there are some things which may be referred to as of importance in estimating the value of the testimony for the defence.

The question with medical men is whether Guiteau should be put with the insane or with that class known variously as the eccentric, the "crazy," or the "insane neurotic." This class of human beings inhabits the border-land of insanity, and its characteristics are described more or less fully by almost all writers on psychological medicine.

The eccentrics have generally some hereditary taint. They have no true delusions, though they often consider themselves persecuted or ill-used. Their judgment is weak; their ideas sometimes incoherent; their emotions are perverted and may turn themselves into some special channel, "perhaps into the fanatical adoption of extreme religious opinions and practices" (Maudsley). They may be vain and egotistical. The moral sense is blunted; untruthfulness and hypocrisy are often displayed. Their conduct is wayward, fickle, and perverse. In fine, the "insane neurotic" has, as a rule, a moderate amount of intellect, a weak will, and a perverted or exaggerated activity of the emotional nature (Bucknill and Tuke). He may have many of the physical characters of the insane: the unsymmetrical head, the shrivelled ear, at times the peculiar animal look (Wynter), and also the unequal pupil, referred to erroneously by Dr. Rice as an evidence of Guiteau's insanity.

It requires no straining to place Guiteau, so far as his past history goes, in the above category.

Such a person, in a life of forty years, must inevitably have done things which might be looked upon by some as insane. Yet the testimony of those who have known him most in his mature years, viz., his wife, his brother, Noyes, and others shows that they saw in him only something disagreeable and eccentric. He was indeed suspected of insanity by Mr. Scoville, but it may be that this was largely because he was such a nuisance.

It is an important fact also that though he had occasionally what would popularly be called delusions, yet none of them were sufficiently outrageous to be considered characteristic of insanity. And, further, in estimating this phase of Guiteau's character, one must remember that conduct or ideas are not insane simply because they vary greatly from the common standard. They must also vary from the standard which the education and training of the individual has set up as normal for him. The savage paints his body, but is not mad. A person is brought up to believe in spirits, or the Mormon bible, or the utility of thieving, but he is not on this account insane. Guiteau's peculiar education and associations are to be considered in estimating the absolute eccentricity of his ideas.

We have but a short space in which to refer to the final act of the assassin and its bearing on the case.

The insane neurotic does not by any means always become insane. If he does, it is oftener with some emotional explosion, which surprises its subject (Krafft-Ebung). Homicidal mania is generally characterized by its paroxysmal nature. There is no long-matured scheme beforehand, and no plan for escape afterward. We might fairly presume, from previous knowledge, therefore, that the killing of President Garfield was not the evidence of a final breakdown of Guiteau's mind.

One must decide on this, also, however, by a study of his conduct and apparent motives. We stated, in discussing the subject before, that there did not seem to be malice. From the facts presented by the prosecution since then, however, it seems not improbable that disappointment and desire for revenge had something to do with the act. We must add to this a vicious craving for notoriety. The driving impulse of a delusion that he was only an agent of the Deity cannot yet be held as of very great weight. It seems to have expanded since the murder, as a happy and useful after-thought. Guiteau was under no uncontrollable impulse, for he restrained himself from shooting once, when he "saw the pale face of Mrs. Garfield." He had designed a plan for escape; he did not trust to the Deity for that; he does not trust to Him now to save him from the mob as he goes to and from his jail. A madman is more consistent in his delusion.

Shall we say then that an act carefully planned, done with deliberation by a person who could restrain himself once, by a person who was actuated partly, perhaps, by a delusion, but also, and perhaps more largely, by a passion for notoriety, and by feelings of disappointment, resentment, and revenge—is that of an irresponsible lunatic? Can society afford to let such men as Guiteau go unpunished?

Laying aside names, this last is really the essential question: Is Guiteau, call his mental crookedness what one pleases, irresponsible?

But this we cannot discuss at present.

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### FURTHER PROGRESS IN THE SANITARY SUPERVISION OF PUBLIC SCHOOLS.

At a meeting of the Cleveland Board of Education, last month, Mr. A. W. Fenton made a further report upon the subject of the public schools.

The results of the investigations into the health of the pupils in these schools were given by us, several weeks ago. The facts thus obtained were novel and striking. They demonstrated with unusual force the need of a careful sanitary supervision. Mr. Fenton, after dwelling upon this investigation, gave a long series of quotations from eminent medical authorities regarding the subject in hand. These quotations represented the opinions of the various gentlemen, communicated to Mr. Fenton in response to his personal inquiries.

Thus, from Philadelphia, Dr. William Goodell writes:

"The brain-cramming of our boarding-schools and public schools, their buckram proprieties, autocratic Bismarckism of their government, breed a host of sickly girls, who swarm in every class of society. Manifold diseases, functional and structural, date from the recitation-room," and further, "the physical education of our girls is sadly neglected. Female scholarship nowadays means invalidship!"

Drs. S. Weir Mitchell and S. D. Risley write in the same vein. From New York City, Drs. M. Putnam-Jacobi, M. A. Pallen, T. Gaillard Thomas, and from Lowell, Dr. Nathan Allen, send opinions which are quite harmonious in their condemnation of the present method of education.

In Europe the statement of Dr. Freichler was quoted to the effect that in Paris, Nuremburg, and Darmstadt, one-third of the pupils in the schools suffer from habitual headache, attributed mainly to bad hygienic surroundings in school, combined with overwork and worry. The practical results of a medical inspection of the public schools in Brussels are shown to have been an improvement in the general health, freedom from epidemics, and an apparent diminution in the number of juvenile paupers and delinquents.

In the report thus made to the Cleveland Board, it is evident that two sides of the question are

brought up—the sanitary and the educational, the school-house and the pupil. The improvement in the school-houses, the attention to the details of lighting, airing, seating, of school hours, etc., is something of which the need is apparent. Reform here can doubtless be secured without any prolonged and tremendous agitation. The allied subjects of just what to teach and how to teach is a more difficult one. Progress here must wait upon the slow change of public opinion.

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PARANGI—A NEWLY DESCRIBED DISEASE.

A PECULIAR contagious disease, called frambœsia, or the yaws, has long been known to exist in Africa, the West Indies, and the northern parts of the British Islands. It is chronic in character and is distinguished by the development of raspberry-like tumors of granulation tissue on different parts of the body.

A disease of a somewhat similar, but severer type, has for many years prevailed in Ceylon. Even less was known of this affection than of its supposed congener, until a recent careful report upon the subject by Mr. W. R. Kinsey, Principal Civil Medical Officer of Ceylon.

The disease in question is called "Parangi," and is defined by Mr. Kinsey (*British Medical Journal*) as a specific disease, produced by such causes as lead to debilitation of the system; propagated by contagion, generally through an abrasion or sore, but sometimes by simple contact with a sound surface; marked by an ill-defined period of incubation, followed by certain premonitory symptoms referable to the general system, then by the evolution of successive crops of a characteristic eruption, which pass on in weakly subjects into unhealthy and spreading ulcers whose cicatrices are very prone to contraction; running a definite course; attacking all ages, and amenable to appropriate treatment.

The disease seems to develop especially in places where the water-supply, which in Ceylon is kept in tanks, is insufficient or poor. The bad food, dirty habits, and generally unhygienic mode of life of the people, helps on the action of the disease.

Parangi, when once developed, spreads generally by contagion from the discharges of the eruptions and ulcers. The natural secretions do not convey the poison. The disease may be inherited also.

In the clinical history of the disease there are, according to Mr. Kinsey, four stages. The first is that of incubation. It lasts from two weeks to two months. A sore will be found somewhere upon the body at this time, generally over some bony prominence. The second is the stage of invasion, and is characterized by the development of slight fever, *malaise*, dull pains in the joints. As this stage comes on the initial sore heals. This second stage lasts only from two to seven days, and ends with an eruption which ushers in the third stage. The eruption appears in successive crops, the first often showing itself on the face, the next on the body, and the last on the extremities. This eruptive stage of the disease continues for several weeks or months, and it ends either in convalescence or the onset of a train of sequelæ, which may prolong the disease for years.

Parangi may attack any one, though the poorly fed and housed are more susceptible. One attack seems to confer immunity from another.

Although some of the sequelæ of the disease are most painful, yet death does not often directly result from them, nor is parangi itself a fatal disease. Persons who have had parangi and passed safely through it, are not left in impaired health at all, but often live to an old age.

The similarity of the disease, in its clinical history, to syphilis, is striking. Mr. Kinsey, however, considers it as we have stated, allied to, if not identical with frambœsia.

# Reports of Societies.

## NEW YORK PATHOLOGICAL SOCIETY.

*Stated Meeting, October* 26, 1881.

DR. T. E. SATTERTHWAITE, PRESIDENT, IN THE CHAIR.

(Continued from page 613.)

CARIES OF THE TARSUS—AMPUTATION AT THE TIBIO-TARSAL ARTICULATION.

DR. JOHN A. WYETH presented a foot removed from a Confederate soldier on account of a gunshot wound received nineteen years previously, in April, 1862, at the battle of Shiloh. It was received on the first day of that battle while in the act of running toward the enemy. The ball entered on the fibular side of the foot, traversing the calcaneo-cuboid articulation and the articulation between the astragalus and the scaphoid; making its exit on the tibial side of the foot. After suppurating and discharging some pieces of bone, the wound closed up, seemingly healed, about seven months after the injury. For six years the foot was perfectly well and useful, when, without any known provocation, it became inflamed, painful, and suppurating. This condition continued with varied intervals of improvement during the years included between 1869 and September, 1880, when he came under Dr. Wyeth's observation. The gentleman had, since the war, resided in Texas, leading quite an active life as a cotton-buyer. When Dr. Wyeth examined his foot in 1880 there was considerable swelling, a suppurating wound on either side at the points of entrance and exit, and a tortuous sinus connecting these openings, through which a probe was passed with difficulty. The patient suffered intensely at times with pains, which extended to the toes and often up the legs; was much emaciated, and had grown accustomed to the use of opium to relieve his suffering. After consultation with Drs. F. H. Hamilton and E. A. Banks, it was decided to make an effort to save the foot. Both wounds were freely opened, some pieces of carious bone removed, the anterior tibial nerve divided, and

a hole was drilled through the foot along the track of the bullet, and a rubber drainage-tube, one-fourth of an inch in diameter, passed through and left in position. The patient recovered slowly, but was not relieved by the operation. He returned to Texas, but in May, 1881 (eight months later), again presented himself for treatment. On May 28th, Dr. Wyeth amputated the foot at the tibio-tarsal articulation, performing the operation recommended in the Prize Essay of the Bellevue Alumni Association for 1876; especial care being taken to carry the lower incision well forward, in order not to wound the plantar arteries near the bifurcation of the posterior tibial. The operation was done under the spray. A drainage-tube was left in the flap, passing out at the most dependent portion. The wound healed by first intention, except where the tube made its exit. The patient recovered promptly, had improved in health very much, suffered no pain whatever, and was wearing an artificial foot with as much comfort as could be expected so soon after the amputation.

Dr. Heineman presented a specimen of

CARIES OF THE PETROUS PORTION OF THE TEMPORAL BONE FOLLOWING CHRONIC EAR DISEASE.

The patient was admitted into the Roosevelt Hospital, July 13, 1881, with an indefinite history of illness lasting one week. He was delirious at the time of admission, his temperature rose to 107° F., and he died July 15th. Subsequently it was ascertained that the patient had a discharge from the right ear, which had ceased before entering the hospital. At the autopsy caries of the anterior and posterior surfaces of the petrous portion of the temporal bone was found. The outer surface of the dura mater covering the bone was coated by a considerable layer of recent fibrine and pus. There was a recent clot in the right petrosal sinus. The vessels of the pia mater were congested, with here and there scanty traces of pus over the convex surface of the right middle lobe of the cerebrum. There was aortic and mitral insufficiency, with dilatation of left ventricle and hypostatic congestion of the lungs. The liver was congested. The spleen weighed twenty ounces, congested, and somewhat soft. The kidneys were the seat of parenchymatous degeneration. The stomach presented the lesions of chronic catarrhal gastritis. The Peyer's patches of the small intestine presented well-marked shaven-beard appearance.

THE SHAVEN-BEARD APPEARANCE OF PEYER'S PATCHES.

Dr. Heineman also presented a portion of the ileum, which exhibited a swollen condition of Peyer's patches, the so-called "shaven-beard appearance," and in that connection he directed attention to the fact that the condition was frequently found associated with other diseases than typhoid fever, of which it had been considered by some as characteristic, whereas the truth was that the Peyer's patches might not be involved in some of the genuine cases. He had been informed by Dr. Janeway that during the last epidemic of typhoid fever which occurred in New York, Peyer's patches were not involved in the cases in which he had opportunity to make post-mortem examination. Dr. Heineman had seen the shaven-beard appearance (specimens presented to the society) associated with three distinct diseases, meningitis, with high temperature, cholera morbus, and general pyæmia, and he recalled a case in which Dr. Delafield made an autopsy and found the shaven-beard appearance well marked after an extensive burn.

COMPOUND COMMINUTED FRACTURE OF THE SKULL.

Dr. William H. Porter presented a brain removed from the body of a patient, Thomas C——, forty years of age, who was admitted to the service of Dr. George F. Shrady, at the Presbyterian Hospital, October 8, 1881, with the following history, furnished by Dr. Simpson, house surgeon.

About an hour before admission, the patient fell from a ladder a distance of about thirty feet. On admission he was comatose, somewhat irritable; there was general flexion of limbs, with rigidity somewhat more marked on right than on the left side. The surface of the body was cold, and the pulse very feeble. There was hemorrhage from the nose and the right ear. There was extensive ecchymosis and distention of both eyelids, a small wound and hæmatoma over the left temporal region, leading down to a comminuted fracture. There was a large hæmatoma over the right parietal region. The patient continued comatose, and died five hours and a half after admission.

Necropsy by Dr. Simpson, house surgeon, twenty hours after death. Rigor mortis fairly marked. Body well nourished. Ecchymosis around the eyeballs. A large hæmatoma under the scalp on the left side.

*Thoracic cavity.*—The pericardial sac contained three drachms of serous fluid, a small milk patch was on the anterior surface of the right ventricle. A very small amount of fluid blood in the left cavities; a larger quantity and a small amount of coagulum in the right cavities of the heart. Weight of organ, thirteen ounces. Valves free and sufficient. The *left* lung adherent to the diaphragm, but otherwise free in the pleural cavity. There was a small quantity of bloody serum in the left pleural cavity. The second, third, and fourth ribs were fractured midway between their angles and the costal extremities. Weight of the left lung, twenty ounces. The *right* lung was free in its pleural cavity. Weight, twenty-eight ounces. Both organs were deeply congested and œdematous.

*Abdominal cavity.*—Numerous ecchymotic spots were visible on the small intestine, located just underneath the peritoneal coat. The bladder was distended with urine. The spleen was soft and flabby; weight, three ounces. Kidneys: weight of the left, six, of the right, four ounces. Gross appearance, nearly normal. The liver was small and slightly fatty. Weight sixty five ounces.

*Cranial cavity.*—When the scalp was turned back a large blood-clot was found between it and the skull, the scalp being cut through at one point, as a result of the original injury. There was a compound multiple fracture of skull involving the right and left temporal, the left parietal, the sphenoidal and the frontal bones. The centre of the destruction was at the junction of the left parietal, temporal, frontal, and sphenoid, the bones being broken into nineteen small fragments. From the point of union between the anterior inferior angle of the left parietal and frontal bones the fracture ran inward and forward in a serrated manner across the orbital plate of the frontal, to the cresta frontalis one-fourth of an inch anterior to the foramen cœcum; from this point the fracture was traced backward and outward across the right orbital plate, chipping off the tip of the lesser wing of the sphenoid, thus entering the sphenoidal fissure; from the outer margin of the fissure

it was traced inward and backward until it came within one-eighth of an inch of the foramen ovale, when it turned and ran directly outward for five-eighths of an inch. Again turning nearly at a right angle it ran directly backward, terminating in the petrous portion of the temporal bone at the "hiatus fallopii." From the last angle mentioned an irregular fissure ran outward and upward across the squamous portion of the right temporal bone. On the left side a second fracture across the orbital plate was seen, running from the fracture already described. Starting one-fourth of an inch to the left of the crista frontalis, it ran backward and through the base of the lesser wing into the internal side of the left sphenoidal, back across the great wing of the sphenoid just external to the foramen rotundun and ovale, and terminated in the petrous portion of the right temporal at the "hiatus fallopii." As a result of this double fracture of the orbital plate of the frontal and lesser wing of the sphenoid on the left side, there was an isolated triangular piece of bone, the apex forward and depressed into the orbit, the base directed posteriorly and elevated into the cranial vault, thus lacerating the inferior surface of the anterior lobe on this side.

The interest relative to the brain, was the deep congestion of the meninges, and a large clot of blood resting upon the convexity of the left hemisphere. The major portion of this clot, as diagnosticated before death, rested on both sides of the fissure of Rolando, evidently producing a decided compression of the posterior half of the first and second convolutions, the anterior and posterior central, the supra-sylvian or supra-marginal, and the anterior half of the upper parietal convolutions.

### CANCER OF THE STOMACH.

Dr. Porter also presented a carcinomatous stomach with the following history, furnished by Dr. E. B Ramsdell: The patient was a man sixty-five years old, who in August, 1880, first began to suffer from what he supposed was neuralgia of the stomach. Previous to that date he had had a variety of diagnoses from different physicians, such as Bright's disease, diabetes, cancer, etc.

In October, 1880, he had for the first time an elevation of temperature and the diagnosis of malarial fever was made, and the patient changed his residence. From that time until March, 1881, he had no special symptoms except a slight pain in the epigastrium, sometimes extending through to the back and under the scapula, and burning in character. He gradually lost flesh and strength between October and March, and at several different times the physicians detected, as was supposed, enlarged lymphatic glands in both iliac regions, but at the autopsy no enlargement was found. About the middle of March the patient came under the care of Dr. Ramsdell who restricted him to a fluid diet which was continued until the latter part of March when he disobeyed orders, took solid food and vomited for the first time. It did not continue, however, nor was nausea and vomiting a marked symptom at any time during the entire course of the disease. From March until the time of his death the fluid diet was continued.

From the cachectic appearance of the patient, the steady loss of flesh and strength, and thepain erferred to in the epigastrium, the right hypochondriac region, and through to the back, though only moderate in severity, it was suspected that cancer existed. No positive diagnosis was made, however, until about the middle of July, when Dr. Ramsdell first detected a tumor, and then believed that he had to deal with cancer of the stomach. Dr. George F. Shrady then saw the patient in consultation, and confirmed Dr. Ramsdell's diagnosis.

The specimen was interesting from the fact that the cancer evidently began in the lesser curvature of the stomach, a fact which aided in explaining the obscurity of the early symptoms. Although the disease ultimately surrounded the stomach it did not absolutely encroach upon the pyloric orifice, and perhaps that might explain why the patient had no vomiting after being placed upon an exclusively fluid diet.

Dr. Briddon thought that vomiting was not a common symptom in cancer of the stomach where the disease did not involve the pyloric extremity.

The President remarked that several specimens had been presented to the society which substantiated the statement that when cancer did not involve the pylorus vomiting was not a prominent symptom.

Dr. Shrady said that the absence of vomiting was considered in Dr. Ramsdell's case, and from it the diagnosis was made that the cancer was not situated at the pylorus.

### UNILATERAL NEPHRO-LITHIASIS—COMPLETE OBLITERATION OF ONE KIDNEY AND CHRONIC DIFFUSE INFLAMMATION OF THE OTHER.

Dr. E. C. Wendt presented specimens of the above, accompanied by the following history, which had been furnished by Dr. David Haig, House Physician of the St. Francis' Hospital: The patient, a native of Ireland, was fifty years of age, and a widow. She was admitted to the hospital on October 8th, in the service of Dr. Lellmann. She had generally enjoyed good health, and remembered no serious previous illness. She had been accustomed to indulge, as she said, moderately in alcoholic drinks. Her sickness, she stated, began about two years ago with pain referred to the epigastric region. The nature of the pain was described as sharp and lancinating, with radiation backward into the loins. Soon the pain became constant, and gradually it increased in severity. Acute paroxysms or colics she did not mention as having occurred.

Some six months ago the patient noticed a rather rapid loss of flesh and strength, while the skin assumed a dirty yellowish complexion. From this time until her death there was progressive emaciation. About six weeks before her admission to the hospital she began to vomit, and the rejected substances had a greenish black appearance. When she entered the hospital there was a pronounced cachexia, great emaciation, and utter prostration. There was also persistent vomiting of a greenish fluid, having a very offensive odor. The liver was found enlarged, and the hepatic region tender to the touch. Slight œdema of both lungs was also present. The pulse was weak, 124 per minute. The temperature about 98½° F., and the respiration 32.

The urine contained fifty per cent. (by bulk) of albumen—a microscopical examination was unfortunately not made. During the five days of her stay in the hospital there was but little change in the patient's condition. The vomiting was temporarily controlled, and the pain somewhat allayed. But she soon refused all nourishment and passed into a state of more or less profound stupor, from which she could only with some difficulty be roused. Death took place at night on October 23d.

An autopsy was made by Dr. Wendt on the next day, and the following notes were taken:

There was some serous fluid in both pleural cavities. The lung on the left side, particularly near the diaphragm, was bound down by old adhesions. General pulmonary œdema was also present on both sides.

The *heart* showed great hypertrophy of the left ventricle, and there were the usual signs of a recent fibrino-serous pericarditis. All the valves were healthy. The muscular substance was abnormally soft, which was apparently due to slight fatty changes.

In the abdominal cavity a small quantity of slightly turbid fluid was found. No evidence of peritonitis, either general or local.

The *liver* was enlarged, flabby, and fatty, but very rich in blood.

In the *stomach* a very marked hypertrophy of the mucous membrane was discovered. There were conspicuous rugæ, superficial ecchymoses, and the entire surface was coated with a thick layer of viscid slime.

The *spleen* was fixed to the diaphragm above, and to an indistinctly circumscribed mass of hard tissue below. Its substance was friable, and the whole organ, though reduced in size, appeared congested.

The mass of tissue just mentioned corresponded in position to the left kidney. It was removed with great difficulty, and a portion of the spleen was still firmly attached to it.

On examination it was discovered to represent the remnant of the completely obliterated *left kidney*. Intercommunicating fibrous channels and pockets, lined with a velvety mucous membrane, alone remained to tell the tale of a completely wasted kidney. Not a trace of renal parenchyma was visible. At the lower end of this multilocular sac, which corresponded to the dilated renal pelvis, a branching, slightly adherent, blackish calculus was found embedded. Infiltrated adipose tissue, outside of a thick, hard capsule, surrounded the entire mass.

The *right kidney* was but slightly enlarged. Its capsule was adherent here and there. The external surface was bossed, and had a variegated appearance owing to the difference in color between the protuberances and depressions. On section, no lines of demarcation between a cortex and medulla were visible. Here and there a pyramid was faintly marked. The surface had a dusky reddish hue, relieved by variously sized patches of lighter color. Microscopical examination revealed the characteristic changes of a chronic diffuse nephritis.

Dr. Wendt thought the case an exceptional one, and interesting both in its clinical and pathological aspects. First, in regard to the clinical history, as far as could be ascertained, the most prominent symptoms had been gastric rather than renal. At least the stomach symptoms had predominated. Renal colics apparently had never occurred. Acute uræmic symptoms came on only toward the close of life. Yet one kidney was completely wasted, and the other in a very poor condition for the healthy performance of its function. And doubtless both conditions had existed for a long period.

Moreover, there was no vicarious hypertrophy of the right kidney to compensate for the gradual loss of the left one. Doubtless the interstitial renal changes had prevented such an enlargement. The calculus must have blocked up the ureter, and in addition caused a suppurative pyelitis, which then led to dilation of the renal pelvis and calices, and finally so encroached upon the secreting tissue of the kidney as to result in a complete atrophy of the parenchyma. The true gastritis, as manifested by a much thickened mucous membrane of the stomach, was probably caused in the first instance by the abuse of alcoholic beverages. But the persistent vomiting of offensive fluid toward the close of life was doubtless caused through an overloading of the system with urates, and should be interpreted as a subacute uræmia.

Dr. Ripley thought that persistent vomiting was a very prominent symptom of kidney disease, and that it was likely to be associated with considerable pain. Persistent vomiting should always lead to an examination of the urine.

Dr. Briddon thought that persistent vomiting was by far the most constant symptom in uræmia, but he did not think that pain was commonly associated with it. He doubted the propriety of arresting the vomiting in such cases.

Dr. Ripley said that the best method for arresting the vomiting was to eliminate the urea, and the next best agent was morphia.

Dr. Briddon thought that with kidneys such as Dr. Wendt had presented, no evidence of kidney disease would be found by examining the urine, on account of the presence of pus which doubtless accounted largely for the albumen present in this case.

Dr. Heineman remarked that he understood fifty per cent. of albumen had been found in the urine. He had heard no reference in the history of the case to any microscopic record. He was little inclined to accept the view suggested that this albumen was entirely owing to pus. The quantity of liq. puris to furnish fifty per cent. of albumen must be very great, and the pus would then have been noted even from naked-eye observation. The quantity of albumen could be well accounted for by supposing that the patient had an acute exacerbation of his chronic nephritis.

Dr. Ripley thought that if albumen was not found in the urine, we were not likely to find any other evidence of kidney disease.

The President remarked that Dr. Ripley's statement would not hold good in most cases. With the variety of kidney presented by Dr. Wendt—the small contracted kidney—albumen might be frequently absent from the urine. Therefore the case was the more remarkable.

Dr. Wendt remarked that there was evidently an acute attack engrafted upon a chronic disease of the kidney, and it was that which killed the patient.

### LEUCOCYTHEMIA: INVOLVEMENT OF THE SPLEEN, LIVER, AND LYMPHATIC GLANDS.—DEATH FROM RETRO-PERITONEAL HEMORRHAGE.

The President presented the spleen and liver from the above case, and gave the following history:

K. F——, aged seventeen, German, single, was admitted into St. Luke's Hospital on October 18, 1881. Nothing was elicited of her family history tending to show that she had inherited any constitutional taint. Her father and mother and nine brothers and sisters are living, and said to be in good health. At seven years of age she had measles, but it was not thought to have had any sequelæ that affected her subsequent health. In the four months preceding admission she had not menstruated, and in this respect she had always been irregular. When the periods stopped, she observed a swelling on the left side of her abdominal cavity, and it occasioned her pain for two days.

She then began to lose flesh, but subsequently regained it. Soon she began to have dyspnœa, and, five weeks previously, frontal headache, coming on in the afternoon and lasting two hours. A month previously she noticed discoloration (ecchymoses) upon different parts of the limbs. Bowels were regular and appetite good. Her general appearance did not indicate anæmia. On palpation the tumor was found by the attending physician (Dr. A. B. Ball) to be in the enlarged spleen, and an examination of the blood by the microscope having shown that the white corpuscles were in very great excess of the red, the diagnosis of leucocythemia was given. On October 22 (fourth day after admission) a large tumor was discovered in the right hypochondriac region. This increased somewhat rapidly in size, and was accompanied by pain and vomiting. Fourteen hours subsequently she died, with the symptoms of exhaustion from loss of blood.

The cause of death was attributed by the attending physician to a sudden retro-peritoneal hemorrhage, which at post-mortem examination was verified.

*Autopsy* (twenty hours after death).—Body in a fairly good state of nutrition; no emaciation. The two tumors, one on the left and the other on the right of the spinal column, could be distinctly appreciated by palpation, but their limits could not be distinctly defined by percussion. The left tumor could be lifted up along its right margin, and its convoluted edge might even be felt through the abdominal pareses. The right tumor was immovable, more deeply seated, and its limits were ill-defined. It was also softer to the feel. Vagina admitted the forefinger with some difficulty. Uterus in normal position; freely movable.

On exposing the *peritoneal cavity*, it was found to contain twelve ounces of blood-serum.

The *spleen* was found to extend from the diaphragm obliquely downward, so that its lower extremity rested against the symphysis pubis. It had risen from its normal position and become quite superficial, partly overlying the intestines for all of its length. Weight, four and three-fourth pounds. It contained no tumors, but had a grayish brick-red color, and was firm and solid, much like a lung in a state of red hepatization. The pericardial sac contained one and one-half ounce of clear serum. The *right lung* was free and normal. The *left lung* was attached posteriorly and inferiorly by four pleuritic adhesions. The heart-substance was also soft, and the blood in its cavities a maroon-red color, and was imperfectly clotted. Weight of heart, nine ounces.

*Liver*—In this organ was a tumor (lymphatic) as large as a pear, just beneath the posterior and under surface of the right lobe. The substance was unusually soft, almost diffluent. Weight, six and one-half pounds.

The *left kidney* was pale; its capsules neither thickened nor adherent. The cortical markings were not irregular. In the pelvis, which was not inflamed, there appeared to be pus, which in one instance, could be traced up to a cheesy-looking papilla. Weight, five ounces.

The right tumor was found, on turning back the intestines, to be due to a retro-peritoneal extravasation of blood. It extended from the sixth rib, in the mammary line, to the level of the anterior superior spines. Pressing the peritoneum forward, it formed a heart-shaped tumor, having its apex directed upward and its base downward, while the greatest convexity corresponded to a line drawn horizontally across the free borders of the ribs. Attached to the peritoneum, over the lower and anterior portions of the tumor, lay the vermiform appendix, having a direction longitudinal to that of the body.

The ileo-cæcal valve was raised to the level of the anterior superior spines. The blood-clot composing the tumor was of a maroon color, and pasty. It weighed sixty-seven ounces. In its centre was the right kidney, the condition of which was not essentially different from the left. Its pelvis also contained yellowish matter, looking like pus.

The *retro-peritoneal glands* were found enlarged and infiltrated; color, a dull gray.

Blood from the hepatic vein, the heart, and the supposed pus from the kidneys was examined microscopically. The white corpuscles were found to occupy fully three-fourths of the field of the microscope. The red were much altered in appearance. With them were also found great numbers of the smaller corpuscles (microcytes) that had been observed in similar cases. There were also present the peculiar octagonal crystals described by Charcot, and found in leucæmic blood.

The cause of the hemorrhage in this instance was attributed to the fatty condition of the vessels—a peculiarity of the disease. The hemorrhage apparently proceeded from a minute vein, possibly the phrenic or supra-renal, upon which, doubtless, great strain was brought, due partly to the obstructing influence of the enlarged liver, and partly to the pressure of the diseased lymphatic glands. The supposed pus in the kidney proved to be epithelium thrown off from the pelvis of the kidney.

### PISTOL-SHOT WOUND OF THE THIGH—PERFORATION OF THE FEMORAL ARTERY—EXTRACTION OF THE BALL AND LIGATION OF THE VESSEL.

The President presented a pistol-ball and drainage-tube with hair-lip pins, connected with which was the following history:

W. T. L——, a young man living in his neighborhood, was accidentally shot through the right thigh on December 10, 1880, the bullet entering the thigh on its anterior aspect about the junction of the upper and middle thirds, and just over the sartorius muscle. The patient presented himself a few hours after receipt of the injury, and the swollen condition of the limb, the expansive pulsations in it, and the diminished pulse in the tibials, immediately excited suspicion that the femoral had been injured. No probing was resorted to, as the bullet was plainly to be felt beneath the skin in the popliteal region below the joint. It was removed after incision of the skin and without any anæsthetic. After closure of the two wounds with adhesive plaster, the entire limb was evenly compressed by a rubber bandage. The patient returned to his home on foot, going at once to bed. The pain increased, however, and he soon complained of a "bursting" sensation in the thigh. As the pulsation was now more strongly marked, a compress, with spica-bandage, was applied over the femoral in the groin. This procedure afforded only partial relief, and it was subsequently determined to accomplish the same object by flexing the thigh upon the pelvis, a compress (in this case a roller-bandage) being inserted over the vessel between the thigh and pelvis. Under this treatment it soon became apparent that there was a circumscribed tumor in the course of the femoral, and corresponding to the junction of the lower and middle third of the thigh. A consultation was accordingly held with Dr. J. L. Little, who sanctioned an operation, the

object of which was to expose the blood-sac and tie the wounded vessel above and below the wound. This operation was done on December 19th, with the assistance of Drs. Little and G. F. Shrady, and under full antiseptic precautions (Lister's method). An incision, eight inches in length, having for its upper limit the external wound, was carried down over the course of the femoral vessels. A mass of firm blood-clot, the size of one's two fists, was thus brought into view and removed by the hand, while smaller masses of clotted blood were taken from the intra-muscular planes. The sheath of the femoral was then exposed above Hunter's canal for about two inches, but the injured point could not be found. It was then decided to open the canal, and the dissection was accordingly carried still further downward. The wound in the vessel was then found just two and one-half inches above the upper limit of the popliteal space. It was detected by the fact that the walls of the vessel were denuded just around the opening, giving this spot a peculiar white appearance. The bullet (calibre 22 short) had cut a hole out of the side of the vessel passing close to the vein and nerve. The limb had been rendered bloodless by Esmarch's bandage. All the arteries were tied with carbolized gut, and the ends were cut short and left in the wound. Owing to the great depth of the incision, and the laceration of soft parts occasioned during the prolonged search after the wound in the vessel, it was thought best not to unite the edges of the wound by the ordinary silk sutures, but to insert hare-lip pins instead. A drainage-tube also was laid deeply in the wound with its two extremities exposed. The delayed union in this case was evidently due to the fact that the gut was only in part absorbed, for at intervals small portions would work their way to the surface and be found in the discharges at the time of dressing the limb. Temperature on the same evening, 100° F. in the axilla. It reached its maximum on the third day (December 22), when it was 101° F.; two of the pins were then removed. On the fifth day two other pins were removed; and on the ninth day, the last remaining pins—axillary temperature at this time 99° F. No unfavorable symptoms followed, and the patient left his bed on January 30, 1881. On May 1st the wound was found to be completely healed, but the patient limped. When examined in October, 1881, this symptom had disappeared. Pulsation in the limb never returned, but there still continued to be some pain in the knee and a numbness in the leg. At the present time the patient's health is entirely restored.

As minor points of some pathological interest in the case, attention was directed to two facts which were corroborative of observations that have been made in similar instances. *First.*—That the carbolized gut is not always absorbed, and, indeed may actually retard the union of a wound. *Second.*—That it is not always easy, even under exceptionally favorable circumstances, to find the site of injury in a vessel that has been opened into. In this particular instance, when the locality of the injury was definitely known within a tolerably limited area, full one hour was consumed before the wound could be found, and then attention was only drawn to it by holding in view the consideration already alluded to. Obviously then, in penetrating gunshot wounds of large calibres, where hemorrhage has occurred, the difficulty of finding the precise site of injury to a vessel would be still greater.

The society then went into executive session.

## NEW YORK SURGICAL SOCIETY.

*Stated Meeting, October* 11, 1881.

DR. H. B. SANDS, PRESIDENT, IN THE CHAIR.

(Continued from page 607.)

### GUN-SHOT FRACTURE OF THE FEMUR—TETANUS.

DR. L. M. YALE presented a pathological specimen accompanied with the following history:

A man, aged twenty-seven, while fighting with a detective, was shot in the left thigh as he stepped to the street from the sidewalk, and as the ball struck him his limb gave way. The ball entered the outer surface of the left thigh, three inches above the articular surface of the femur, and the point of exit was upon the opposite side, four inches above the articular surface. Under anæsthesia the wound on the outer surface of the thigh was enlarged, the finger introduced, and the hole in the femur distinctly felt. The femur was fractured about one inch above the hole made by the bullet. The upper fragment was sharp-pointed, and displaced forward, overriding the lower fragment and piercing the muscles. The lower fragment was displaced backward. Several loose fragments of bone were found beneath the muscles, two of which were removed. The joint-capsule was not injured. The wound was washed with carbolic acid, 1 to 20, a drainage-tube inserted, and the full Lister dressing applied. A long side-splint was used, and Buck's extension with fourteen pounds. The patient was admitted to Bellevue Hospital September 5, 1881, and on September 6th the Lister dressing was reapplied and the limb placed on a Volkmann's apparatus. The dressing was reapplied on September 7th, and on September 8th the large drainage-tube was removed, and smaller tubes, an inch and a half long, were inserted into each end of the wound. The Lister dressing was reapplied.

September 20th.—The patient has progressed favorably. A simple dressing of borated cotton and balsam of Peru was substituted for the Lister, and the limb was put up in a plaster of Paris splint. Fenestræ were cut, so as to expose the wound on each side, which was washed out daily with carbolic acid, 1 to 40, and dressed with borated cotton and balsam of Peru. Patient feels well and complains of no pain.

October 1st.—He complained that his throat was sore, which was attributed to an open window near his bed. There was considerable stiffness of the jaw. The wound looked healthy and discharged about two ounces of laudable pus.

October 2d.—Patient still complains of sore throat, stiffness of the jaw, and some difficulty of swallowing. No change in the condition of the wound.

October 3d.—The patient complains that he cannot open his mouth, and says that his jaw closes occasionally with a sharp snap, his teeth cutting his tongue, and that he has had much difficulty in swallowing.

At 9 P.M. he complained of twitchings in the injured leg, starting from the malleoli. Splint cut down to relieve pressure. No ulcers found. The twitchings continued, the difficulty in swallowing increased, the stiffness of the jaw remained, and on October 6th, at 1 A.M., he had a general tonic convulsion, which lasted about fifty minutes, with pleurothotonos, rigid neck, rigid and flexed arms, slight risus sardonicus, and pulse 140. Respiratory movements very limited during convulsion. At 3 A.M. he

had another but more pronounced convulsion, and at 5 A.M. the third convulsion appeared, during which he died of apnœa. At the autopsy there were no evidences of septicæmia or pyæmia. There was in the canal of the bone some evidence of exfoliation, and the portion removed was in a condition of rarefying osteitis.

DR. STIMSON thought the specimen was interesting as showing the condition of a fracture one month after the injury was received, and which had done well during that time.

DR. A. C. POST queried whether tetanus had occurred unusually frequent this season, and referred to the fact that he had met with two cases of traumatic tetanus in two successive days; one from a rusty nail in the foot, and the other from an inflamed condition of the navel. Both cases terminated fatally, and both occurred in the month of August.

FOREIGN BODY REMOVED FROM THE BLADDER.

DR. LANGE presented a specimen which he had removed from the bladder by median cystotomy. A man, thirty years of age, became totally drunk, and while in that condition his friends amused themselves by introducing into his urethra, one after another, small pieces of pitch. During the first six or seven weeks afterward the man passed some of them in his urine without knowing what they were. Several attempts had been made to remove others by lithotrity and forceps. He first tried to make aspiration through Bigelow's large tube, but did not succeed, and then performed median cystotomy, and removed the specimen presented, which was nearly two inches long and half an inch in diameter.

DR. KEYES presented a specimen of

URINARY CALCULUS,

with the following history:

"R. M——, a thin, wasted old man, sixty-eight years of age, with trembling hands and tottering gait, on October 3, 1881 (one week ago yesterday), had in his bladder the stone of which I present the fragments to-night for your inspection.

"The stone is composed of uric acid and urates. It weighs, dry, 1,065 grains. It was extracted by Bigelow's method in one hour and a quarter—seventy-five minutes—being an average of about fifteen grains of stone to the minute.

"The instruments used were my own lithotrites, Bigelow's tube, 27 French (16 English), and Thompson's washer.

"No complication occurred. I was assisted by Drs. Stimson, O'Dwyer, and Blackwell.

"No chill followed the operation: no urinary fever. My first call at the patient's house was on the day of the operation, my last call on Saturday, the *fifth* day, when the patient was declared well, allowed to get up and go out, and professional visits were discontinued.

"The patient had had symptoms of stone for ten years, but the calculus was only detected last summer, by Dr. Van Buren. He was not operated on earlier than last week, because he was sick and feeble, being confined to his bed for a month with what he called malarial fever, but what I, from his account of it, believe was urinary fever—doubtless due to mild pyelitis.

"I expected the patient to have a severe reaction, but he had none. This I ascribe, in part, to the use of a moderate tube, No. 27, the urethra not being cut or damaged in any way.

"I cannot resist the conviction that any other variety of operation would have put the life of this man in serious danger, and I present these brief notes to the society in illustration of the most brilliant triumph of the American operation for stone with which it has been my good fortune to come into personal contact.

"The size of the stone and rate of rapidity in extraction are not the features of this case. The brilliancy consists in the rapid recovery and absence of reaction."

THE PRESIDENT presented two specimens of

URINARY CALCULUS,

one obtained from a patient who did well, and the other from one whose case terminated fatally. The history of the latter case was related first. He was asked by Dr. Pierce, in the latter part of May, to see a gentleman in Harlem, who was afflicted with a stone in the bladder. The patient was seventy-three years of age, and the symptoms of stone had been first noticed about three years ago. The diagnosis was very easy, and it was evident that there was more than one stone in the bladder. The urine was highly purulent; it contained some blood, and was quite fetid; moreover, there was reason to believe that inflammation had extended along the higher portions of the urinary tract. It was a question whether to operate or to leave the man to his fate; but as the patient was suffering, and was desirous of submitting to an operation, Dr. Sands attempted to remove the stone by rapid lithotrity. The attempt was unsuccessful. The patient took ether badly, and became cyanosed; the operation was, therefore, prolonged and incomplete, resulting, after a period of something more than an hour and a half, in the removal of 250 grains of uric acid calculus. The operation was also delayed because it was impossible to introduce an evacuating-tube of larger size than No. 26. The patient did well for thirty-six hours, when he became uræmic, and, although the urine was made to flow, and, by the action of jaborandi, profuse sweating was induced, coma supervened, and he died on the morning of the fourth day. At the autopsy there was found extensive disease of both kidneys, which were in a state of granular degeneration, pyelitis was severe and acute upon both sides. The left ureter was dilated to the size of half an inch. The bladder was extensively diseased, and was, apparently, the seat of old as well as of more recent inflammatory disease, the latter occasioned, perhaps, by the operation. On its mucous surface were a number of patches of lymph, the largest of which was about an inch in diameter, situated at the superior fundus. The mucous membrane was injected and was much thickened in consequence of chronic inflammation. In the bladder was found also a large quantity of crushed stone, and a calculus, probably of the same character as the one removed, which measured an inch and a half in its longest diameter. The weight of calculus material remaining in the bladder was 545 grains, making, together with that removed at the operation, about 800 grains. The case was interesting as showing the danger of an operation in old persons, and, although it was possible that if lithotomy had been performed the patient might have recovered; yet it was probable that a fatal result would have followed any severe surgical procedure.

The other specimen exhibited was one of phosphatic calculus removed on the 30th of June, from a patient, forty-four years of age, who had suffered

from symptoms of stone for four years. The operation lasted an hour and a half, and 465 grains of calculus were removed. The bladder was completely emptied. This patient, like the other one, became much cyanosed under ether, but he did well immediately after the operation, and on the 1st of July the urine, which was slightly bloody at first, became normal, and the patient passed water with more ease than he had done for years. On the night of the 1st of July he had a chill, and his temperature rose to 102° F. No mischief, however, followed the chill, and the temperature sank on the following morning to the normal standard, and did not rise subsequently. He was discharged well on the 12th of July, thirteen days after the operation.

## NEW YORK ACADEMY OF MEDICINE.

*Stated Meeting, November* 17, 1881.

FORDYCE BARKER, M.D., LL.D., PRESIDENT, IN THE CHAIR.

THE Librarian reported that since the last stated meeting one hundred and eighty-three bound and forty-five unbound volumes had been donated to the library.

DR. PURPLE presented, in behalf of Dr. Isaac E. Taylor, an obstetrical work written by M. Dupuy, and published in 1774; also, in behalf of Dr. Austin Flint, a manuscript letter of Laennec.

DR. ADAMS, Corresponding Secretary, announced the death of M. Bouyeau, of Paris.

### TRANSFUSION OF BLOOD.

DR. DUBOIS, of Grand Rapids, Mich., exhibited a new instrument for transfusing blood from one vein directly to another.

DR. LOUIS ELSBERG then read a paper on

### "THE CELL DOCTRINE AND THE BIOPLASSON DOCTRINE."

Introductory to the paper the author gave a *résumé* of his observations on hyaline cartilage, given in full at the last meeting of the American Laryngological Association, and published in the *Archives of Laryngology*. It was to the effect that hyaline cartilage had been considered one of the simplest of tissues, being made up of a dense basis-substance, in which were imbedded soft corpuscles or granular cells. The chief theories in explanation of the manner in which these corpuscles obtained nutrition had been imbibition and the existence of delicate channels in the basis-substance, through which nutrient fluid could pass and reach the granular bodies.

DR. HEITZMAN, of New York, however, had discovered that the hyaline cartilage was really made up of blocks of living matter united by threads of living matter, that is, that hyaline cartilage is a network of living matter, into which lumps of living matter had been placed. The same line of investigation had been extended to the various tissues, and the conclusion reached that the whole body consisted of lumps and threads of living matter united in this manner.

DR. ELSBERG explained the cell theory as represented by Schwann, Virchow, and others, and showed that the word "cell," to designate the organic form element, had long been a misnomer, and claimed that since Dr. Heitzman's discoveries it was not only erroneous, but misleading. Hitherto the amœba had been supposed to consist of a homogeneous, structureless lump of jelly like living matter called protoplasm, containing granules, supposed to be foreign particles; but really it was a mass of living matter arranged into a network, the points at which the threads intersect each other being thickened and constituting the granules supposed to be foreign bodies, and in the meshes of this network was contained the "non-contractile" matter.

He regarded the word "protoplasm" as etymologically incorrect, and preferred the word "bioplasson."

The essential difference between the cell doctrine and the bioplasson doctrine was that, according to the former, each tissue was made up of a number of unities; according to the latter it was composed of masses of living matter interconnected by threads of the same living substance. [See MEDICAL RECORD, vol. x., p. 364.]

DR. C. HEITZMAN said that he made his discovery in 1873, the more theoretical and scientific part of which had been laid before the academy by Dr. Elsberg. There were, however, practical questions closely connected with the doctrine, which, he thought, would form some part of future medicine, as it would enable us to determine the constitutional viability of each individual. What Dr. Elsberg had described as a reticulum of living matter varied greatly in different individuals, and by the aid of the microscope it could be positively determined how much of living matter there was present in each single element of protoplasm formerly called a cell. The white blood-corpuscle was a constituent part of the body, and in it could be found all the features necessary to indicate the amount of living matter in the entire body; in other words, the actual constitution of the individual. [See MEDICAL RECORD, vol. xi., pp. 321 and 322; vol. xii., p. 94; vol. xvi., p. 68.]

### "PYÆMIC PAROTITIS."

DR. C. A. LEALE read a paper on the above subject, in which he spoke of suppuration of the parenchyma of the parotid gland, in contradistinction to the idiopathic affection commonly called mumps. He believed that the primary step in the pyæmic parotitis was ulceration, or solution of continuity at some distant part of the body. He had observed metastatic abscesses in the parotid gland only where ulceration had existed in some part of the body previously. Hence, cases had occurred in connection with typhoid fever, dysentery, suppurative osteomyelitis, diphtheritic ulcer of the posterior fauces, pelvic cellulitis with ulceration, peritonitis, etc., and were embolic in origin.

Dr. Leale then reported several cases and presented two patients who had had suppurative parotitis, which he believed to be due to the cause mentioned.

The *first* was a case in which the abscess broke through and pus discharged from the external auditory canal; it followed acute general peritonitis, and pelvic cellulitis with formation of abscess. Pus could be seen exuding into the external auditory canal, near the membrana tympani. The pelvic abscess opened spontaneously into the vagina. There was also post-pharyngeal abscess, which was opened. The discharge from the ear continued for more than a year. At one time there was complete blindness, complete deafness on the affected side, and nearly total loss of hearing upon the opposite side. The patient ultimately recovered, with hearing and vision completely restored.

The *second* was a case in which, with suppurative parotitis, there was discharge of pus from the external auditory canal on both sides, and there was also complete deafness for three weeks. Hearing in both ears was completely restored.

The *third* was a case in which suppurative parotitis followed typhoid fever, with hemorrhage from the bowels. The abscess communicated with Steno's duct, discharged behind the ear, and nearly, or quite all the gland sloughed away. In this case, as an interesting item in its clinical history, goitre developed, which ultimately disappeared under the use of iodine. The patient was presented to the academy.

Dr. Leale then referred to a number of cases which had fallen under his own observation, others which had been reported by different writers, and in which profuse suppuration had existed, without the occurrence of parotid abscess. From the observation of his own cases, he had been led to believe that suppuration of the parotid gland was best explained by the theory of sepsis; micrococci poison was conveyed from a distant point to the parotid gland, and there developed an abscess or abscesses. He had not seen such metastatic abscesses occur, even with profuse suppuration, provided the pyogenic membrane remained unbroken; neither had it occurred under his observation with the abundant suppuration of empyema. Nor did hospital gangrene seem to be a cause of these abscesses.

Dr. Leale then referred to cases of osteomyelitis which he had reported in the "Surgical History of the War." He also referred in passing to the difficulty of removing the parotid gland, and mentioned cases in which the operation had been done partially or completely by Drs. A. C. Post and William T. White.

The President referred to cases of suppurative parotitis which he had seen in puerperal women. In 1874 he saw a young married woman who had a miscarriage; subsequently pelvic cellulitis;* afterward distinct symptoms of pyæmia, followed by abscess of the parotid gland and death by exhaustion. In Bellevue Hospital he had seen two cases in which the patients died from exhaustion produced by suppurative parotitis of pyæmic origin.

Last winter he saw a patient who had a miscarriage; two weeks subsequently pelvic cellulitis, in which abscess occurred, and two ounces and a half of pus were removed with the aspirator. One week afterward abscess of the parotid developed, which was opened; subsequently the parotid gland upon the other side suppurated. Two weeks after that, ulcerative endocarditis and pericarditis developed, and the patient died two days after the development of the cardiac complications.

Two years ago he saw a case with Dr. Markoe, in which the patient had pyæmia, following the running of a toothpick under a finger-nail. Suppurative parotitis occurred; the pus was deep-seated; the abscess was opened, it discharged freely, and the following morning the patient died of œdema glottidis.

These cases illustrated the fact that the occurrence of suppurative parotitis with pyæmia was not so very rare.

Dr. A. C. Post and Dr. William T. White stated that in their cases it was not known positively that all of the parotid gland was removed.

Dr. Joel Foster referred to a case in which the parotid gland was completely removed by Dr. McClellan, of Philadelphia.

Dr. H. D. Noyes had been interested in listening to the report of Dr. Leale's cases, in which the discharge found its way into the external auditory canal, and also where both vision and hearing were implicated. He thought the discharge into the external auditory canal could find its explanation in the fact that the cartilages of that canal were embryonically developed in parts, and probably a fissure or imperfect fusion remained. Probably these portions of cartilage were less developed in some persons than in others, and at the different points where there was the least resistance the pus might find its way through and make its exit in the direction of the external auditory canal.

Dr. Noyes thought it very remarkable in Dr. Leale's case in which there was deafness in both ears and total blindness, that there should not have been any serious brain-symptoms. The case was probably one of very circumscribed inflammatory action at the base of the skull, which must have affected the sheaths of the optic nerves, and doubtless gave rise to choked optic disc. Ophthalmoscopic examination would have been exceedingly interesting, and probably would have revealed that condition of the respective papillæ. The entire recovery of vision favored the hypothesis that there was nothing more than œdematous effusion. Dr. Noyes then referred to a case in which inflammatory action affecting the semicircular canals followed idiopathic parotitis. The patient recovered, with total and permanent loss of hearing upon one side, and there had been no symptoms of acute inflammation of that ear. There was the characteristic staggering gait, which was never fully recovered from. The precise way in which such results were produced he was unable to say, but the complication was sufficiently common to make the case worthy of special mention.

The Academy then adjourned.

## Correspondence.

### DIET FOR GOUTY PATIENTS.

To the Editor of The Medical Record.

Sir: Permit me to occupy space enough for a short comment on the article of Dr. Alexander Hadden, in the Record of October 22, 1881, in which he advocates an animal diet for the gouty, permitting only such vegetables as contain neither amylaceous nor saccharine principles. He gives cases to show the benefits derived by such patients from a withdrawal of such foods from their diet, and then states the reasonableness of the inference, "that this kind of food may be a factor in the production of this disease in the human system, as well as other well-recognized causes."

After recapitulating the predisposing causes of gout, as laid down by Garrod, he expresses a hope that some physiological experiments might have been made that would either confirm or disprove a hypothesis which he quotes from a former article, as follows: "Whether some fermentation may not take place in the alimentary canal of such animals, birds, and human beings as subsist largely upon a diet composed mainly of amylaceous and saccharine principles, or both, similar to the fermentation which takes place in the manufacture of malt liquor or wines, etc."

It is unquestionably true that amylaceous and saccharine—that is to say, carbonaceous—foods do

play an important part in the production of gout, and the explanation is at hand. One of the functions of the liver, that of oxidizing the albuminoids, furnishes the key to the whole subject as applied to the human race, and to those birds and animals who suffer from gout.

"Lithates cannot be produced from a dietary of hydrocarbons without nitrogen. Hydrocarbons oxidize but slowly when in combination with nitrogen, consequently the more readily oxidizable hydrocarbons burn readily and consume the oxygen of the blood, leaving the albuminoids in an imperfectly oxidized form." The carnivorous birds and animals, who do not suffer from gout, find their analogue in the "gaucho of the South American pampas, who, though a flesh-eater in a hot climate, does not suffer much from lithiasis."

I have quoted these statements from the second edition of Fothergill's "Handbook of Treatment," pp. 405, 406, where a fuller explanation of the subject may be found. Bearing them in mind, I see no difficulty in comprehending the part played by the hydrocarbons in the production of gout, and the rationale of excluding them from the diet of such patients without reference to the hypothesis of Dr. Hadden, and that, too, without at all conflicting with the established custom of excluding the albuminoids; for we may well suppose that the liver, while perfectly competent to oxidize the nitrogenous *tissue-waste*, together with the hydrocarbons, if not overburdened with *nitrogenous food* is equally competent to oxidize the tissue-waste and the albuminoid food if the whole of the oxygen of the blood be left to act upon them, and not be consumed by more readily oxidizable hydrocarbons.

So far as I know, Dr. Hadden is entitled to the credit of being the first to put his gouty patients on a diet from which the hydrocarbons are excluded; but it seems to be so rational, so physiological, that I have no doubt it will prove a valuable addition to our management of the gouty diathesis.

Respectfully,
N. G. THOMAS, M.D.

YALAHA, FLA., November 5, 1881.

## DR. BEARD'S "TRAINED SUBJECT."

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The letter of Dr. Hammond in the MEDICAL RECORD of October 15th, entitled "A Word for Dr. Beard," being, I think, somewhat inaccurate and misleading in its tendency, may I request, for truth's sake, a little space for some remarks thereon.

It must be clearly understood that the general question of the truth of "hypnotism" is not in any way raised in this matter of Dr. Beard and his "trained subject." That hypnotism denotes a set of well-established facts we all admit; that hypnotism conceives often to cover imposture and quackery is equally certain. The question at issue is whether or not on a given occasion a certain alleged manifestation of hypnotic phenomena was genuine?

To insinuate that Dr. Beard's experiments were discredited by Dr. Crichton Browne and many other observers, on the ground of the assumed falsity of all hypnotic phenomena, is to raise an obviously false issue, enabling the defendants in this controversy to pose as the supporters of a cause instead of an individual, and representing a simple criticism of fact as a covert attack on unwelcome truth.

The universal opinion expressed at the meeting in London, that the experiments of Dr. Beard were wholly unsatisfactory, was an irresistible result of the exhibition itself, quite apart from any preconceived notions on the matter of hypnotism. Were a lecturer on such a well-marked subject as elementary chemistry to fail in every one of his illustrative experiments, or succeed only in one or two which were liable to the suspicion of being "cooked," surely the audience would justly vote the performance unsatisfactory, and demand, at least, some explanation from the lecturer. All the more, then, in a subject so confessedly perplexing as hypnotism, overlaid as it is by designing quackery, and open as it is to unlimited deception, a scientific inquirer is not only to be excused, but imperiously required to make the most rigorous investigation (disregarding every personal factor) of any of its alleged phenomena.

As one of those present at Dr. Beard's London demonstration, and endorsing Dr. Crichton Browne's views, I beg to repeat with emphasis that in the opinion of the whole meeting such an obviously desirable and necessary investigation as I have indicated caused the phenomena before us to melt entirely away. Evidence of this statement has been fully given elsewhere.

I went myself at the invitation of Dr. Beard, in the belief that I was going to see *bonâ fide* examples of hypnotism and obtain as ample information about the patients as I should expect from any physician who brings a case before a medical audience. But Dr. Beard markedly evaded my oft-repeated request for a systematic account of the case before the introduction of those mesmeric phenomena which are so familiar (such as the delivery of florid orations, etc.), and proceeded to behave after the manner of a platform exhibitor rather than of a clinical demonstrator; so that, with no preconceived animus whatsoever, I could scarcely resist the conclusion that this exhibition, at any rate, was unworthy of the audience called together.

With regard to some of the questions asked of Dr. Beard by Dr. Crichton Browne, and answered by Dr. Hammond, I would say:

*First.*—That in hypnotism, where many of the alleged phenomena can be imitated by imposture, and are of a subjective character, it is plainly of the first importance to establish, at least, a *prima facie* evidence of the truthfulness of the subject experimented upon. Any one of moderate histrionic power and seared conscience could easily denounce drunkenness in a verbose harangue, and afterward deny the consciousness of his performance. Yet such an experiment as this was one of those which are supposed to be quite independent of the character of the "subject." When, therefore, Dr. Beard's subject confessed that he was going under an assumed name, and refused, among several other questions, to answer one as to whether or no he had been in trouble with the police, any plain mind would admit that the necessary preliminary inquiry received rather a rude check at the start.

*Second.*—These things being so, any one conversant with even the shallows of the fraudulent rascality of spiritualism would at once see the relevancy of the question as to whether this "trained" subject had been mixed up with this cultus or not. The immediate reason why this man was asked at the meeting if he had sat with mediums, was, that in complaining of having come among a set of "medical doctors," whom he considered to be "wolves," he

said that these experiments were always more successful on himself when the audience was "harmonious." This well-known jargon of the seance-room was followed by the admission on his part *that he had sat with several mediums in New York*, but that he had forgotten their names (though it was only a matter of a few months before). Although Dr. Hammond was doubtless unaware of this admission, his denial of the matter seems unduly positive.

*Third.*—The very irresistible suspicion on the part of all present, although it may not have amounted to absolute demonstration, that all that this subject did on that occasion was "acting," obviously justifies Dr. Crichton Browne's question to Dr. Beard as to whether he, himself, who had observed the patient so much longer, had never entertained a like suspicion.

*Fourth.*—Dr. Hammond's answer to Dr. Browne's question, whether Dr. Beard's statement that he had exhibited his experiments before a certain academy in New York was contradicted by Dr. Adams (the secretary of that academy), is somewhat of a quibble. That Dr. Beard's statement (whatever it was) was at once denied by Dr. Adams every one present could testify. Whether, therefore, the name of the society was correctly quoted by Dr. Browne has no bearing on the question; and Dr. Hammond's irrelevant retort on this head does little credit to his logic.

*Lastly.*—The ethical propriety of Dr. Beard's refraining to express satisfaction that a gross deception had been exposed, depends, of course, on the opinion held as to whether such deception and exposure had taken place. Impartial observers have now the conflicting evidence before them. Let the verdict rest with them.

I am, sir, yours obediently,

H. DONKIN.

LONDON.

## THE POST-MORTEM EXAMINATION OF PRESIDENT GARFIELD.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the *North American Review* for December, 1881, the "surgical treatment of President Garfield" is discussed by four distinguished men, Wm. A. Hammond, John Ashhurst, Jr., J. Marion Sims, and John T. Hodgen.

The matter is, of course, very ably handled as to most of the points. As to one of them, however, two of the writers make such singular statements, one in an unqualified way, and the other not so clearly, about the effects of injections thrown into the arteries after death, that I think some notice should be taken of them.

Thus, Dr. Hammond, page 586: "That the rupture of the splenic artery was either due to malnutrition of the coats, the result of pyæmia, or was post-mortem, being caused by the injection of a solution of chloride of zinc into the vessels several hours before the autopsy. If the latter was the case, the *blood* found in the peritoneal cavity *was pushed out* by this fluid, which of course filled all of the vessels, and which, it is admitted in the report of the post-mortem examination, was extravasated into the abdominal cavity with the blood."

Then, Dr. Sims, page 598: "The everted edges of the slit in the splenic artery were united by firm adhesions to the adjacent connective tissue. Therefore, the rupture of the artery may have happened during the act of embalmment."

This certainly also conveys the idea that the blood in the abdominal cavity escaped post-mortem.

Have these gentlemen forgotten the very elementary principles and facts of their training as to the blood-vessels? Were they not taught that the very name "artery" is a misnomer, and arose from the fact that the ancients found the arteries empty after death; and that the knowledge of their true uses was not fully made out until the time of Harvey?

Those who have spent years in the sculleries of dissecting-rooms and in the rooms themselves, know practically that nothing is pushed out from *arteries* by injections, for a very plain reason: that there is nothing to push out.

Given a normal condition of the vessels, the last actions of the heart gorge the venous system with blood, and often also the right heart itself.

Preservative watery injections into the vessels, after death, pass on so freely that they rarely, if ever, interfere with the plaster or tallow, or whatever may be thrown in, to aid the student in his studies.

Sometimes these latter injections break the vessels, and masses of the substance are found in the cavities, but never with clots of blood pushed before them.

When a demonstrator in the dissecting-room comes across a large clot of blood in the brain, thorax, or abdomen, he says: "This man died of a hemorrhage!" Very rarely does he find *post-mortem* masses of blood, and when he does find them they have come from veins.

Thus, during the *post-mortem* examination of the President, blood might have poured out from cut or torn veins of the portal system, but this would have been seen and fully noted.

How did the watery solution go in the President's case? It filled the arterial system, and escaped where? Just where blood had escaped *before death* it escaped *after death*. The injection was a good thing, instead of something to be deplored, as is mostly the case in discussions about it, for it helped to prove the existence of an arterial rent or rupture before a knife was put in the body.

The following opinion of a great practical anatomist reinforces these statements:

"According to my experience and observation, the views of the author of the above in regard to the escape of blood from the arteries is correct. In relation with the matter I may tell a story. Many years ago a vigorous male subject had been provided for my lectures on the muscles. It was injected with an antiseptic liquid. After dissection of the muscles on the fore part of the body, this was turned over to prepare those of the back. On removing the skin, an extravasation of blood was noticed in the fascia for several inches over the tendon of the trapezius, at the root of the neck. I remarked to my assistant that the extravasation was due to a hemorrhage preceding death. Later, when the adjacent vertebræ were exposed, a lower cervical was found to be fractured, and partially displaced. We expressed the opinion that the man had died of a broken neck, probably from a fall.—JOSEPH LEIDY, Professor of Anatomy in the University of Pennsylvania."

WILLIAM HUNT,
Senior Surgeon to the Pennsylvania Hospital, formerly Demonstrator of Anatomy in the University of Pennsylvania.

THE GARFIELD MEMORIAL HOSPITAL.—A fund of eighty thousand dollars has already been raised for this object, and much more is promised.

# New Instruments.

## A NEW URETHRAL BOUGIE.

By A. VAN DERVEER, M.D.,

ALBANY, N. Y.

Having had such excellent results from the use of the instrument illustrated by the accompanying cut, I feel it proper to call the attention of the profession to it. In the treatment of urethral stricture by gradual dilatation, and in those cases where it became necessary to maintain the calibre of the urethra after internal urethrotomy, or rapid divulsion, I have realized for a long time that the fixed curve of the steel sound gave unnecessary pain, and that the soft, olive-pointed bougie, by passing some two or more inches farther into the bladder than was required, gave to that organ a shock and an irritation which, in addition to being very disagreeable to the patient, incurred also the dangers of possible cystitis, with its complications.

Acting upon the knowledge of the fact that we seldom, if ever, meet with a stricture in the prostatic portion of the urethra, I had made, some two years ago, by Messrs. Tiemann & Co., light metal urethral dilators, of the average length of the spongy and membranous portion of the urethra—about eight inches—and in sizes ranging from Nos. 10 to 42 of the French scale. These were found very serviceable, being used by patients with safety and success. Later, as an improvement on the above described instrument, I had made, in different sizes, the solid rubber urethral bougie, which gives the least possible pain on passing. These bougies were also made by Tiemann & Co., who are now prepared to furnish them singly or in sets.

Believing them to be the safest of all bougies, and knowing from actual use that they are the most serviceable, I present them with confidence to those of my brethren who have these cases, in the treatment of which such an instrument is indicated.

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The Transactions of the International Medical Congress will be published and ready for distribution by December. To non-members the price of the work will be 30s. ($7.50). Any volume of the three can be bought separately. The first volume will contain a list of members, accounts of the general meetings, the general addresses, description of the museum specimens, and the transactions of the sections of anatomy, physiology, pathology, materia medica, and pharmacology. Volume two will contain the transactions of the sections of medicine, surgery, state medicine, military medicine and surgery, obstetric medicine and surgery, and diseases of children. Volume three will contain the transactions of the sections of ophthalmology, mental diseases, diseases of the skin, diseases of the throat, of the ear, and of the teeth.

Orders for the work will be received by J. W. Kolckmann, of Langham Place, London.

# Medical Items and News.

**Contagious Diseases — Weekly Statement. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending November 26, 1881.**

| Week Ending | Typhus Fever. | Typhoid Fever. | Scarlet Fever. | Cerebro spinal Meningitis. | Measles. | Diphtheria. | Small-pox. | Yellow Fever. |
|---|---|---|---|---|---|---|---|---|
| Nov. 19, 1881. | 0 | 41 | 143 | 8 | 43 | 95 | 15 | 0 |
| Nov. 26, 1881. | 1 | 28 | 140 | 5 | 65 | 100 | 8 | 0 |

A Medical Song from "Patience."—

A New York medical man,
A very much-advertised man,
A pills-in-variety, talk-in-Society,
Each-for-himself young man.

A Philadelphia man,
An *Index Medicus* man,
A think-it-all-gammon, this talk of Buchanan,
Great-medical-centre young man.

A Boston medical man,
A hyper-historical man,
An ultra-persimmon toward medical women,
A Harvard-or-nothing young man.

A Chicago medical man,
A wide-awake, ethical man,
A good-as-the-rest-of-you, more-than-abreast-of-you,
Down-on-the-East young man.

Antiquity of the View that Inebriety is a Disease.—The *Lancet*, commenting on the claim made by Dr. Crothers, and others, that inebriety is a disease, says: "It may interest the curious among our readers to know that, even if true, this view is not new. Fourteen hundred years ago a like theory was propounded by St. John Chrysostom, who illustrated his meaning by a reference to the characteristic symptom of craving dyspepsia. 'Do you not see that drunkards are always thirsty? for it is a passion, not the desire of nature, but some perverted disease. Do you not see how those afflicted with bulimy, as it is called, are always hungry?'"

Dr. Alfred H. McClintock, LL.D., of Dublin, Ireland, died on October 21st, in the sixtieth year of his age. Dr. McClintock was Vice President of the Royal College of Physicians, Ireland, Member of the General Medical Council for Ireland. He was chiefly connected, during his life, with obstetrical progress. His most important work was one entitled "Clinical Memoirs on Diseases of Women," published in 1863. Dr. McClintock's last public appearance was as President of the Obstetrical Section of the International Medical Congress.

Dr. Magruder on Genital Irritation.—At the last meeting of the Neurological Society, published in the Medical Record of November 19th, the remarks of Dr. Magruder, of Washington, D. C., were, by a typographical error, credited to Dr. McGuire.

Dr. L. L. Wilcox, long a prominent physician of Hartford, Conn., died on November 25th, at the age of fifty-five years. He was a native of Granby, Conn., a graduate of Yale College, and a member of the Medical Faculty of that university.

"To the Delegates and Permanent Members of the Medical Society of the State of New York: It is desirable that the nature and amount of the scientific material intended for the meetings in February of the Medical Society of the State of New York should be known beforehand, as far as possible. The undersigned, therefore, requests all those, both delegates and permanent members, who propose to read papers, to communicate with him in regard to the subjects thereof, and the time they are likely to consume. If this request be complied with, it is thought that the material can be suitably arranged in groups, fruitful discussions may be prepared, and many who, for public or private reasons, have been prevented from meeting with us on former occasions will be enabled or prevailed upon to attend at least part of the time, and at such a period of the proceedings as will both agree with their special tastes and prove most conducive to the interests of the Society.—A. Jacobi, M.D., President of the Medical Society of the State of New York."

The St. Paul Medical School, which is one of the few requiring four years' study and three courses of lectures, is reported to be well established, and to have $100,000 behind it. We notice, however, in a recent item in the *Mississippi Valley Medical Monthly* that there is no mention now made of *four* years' study, and that students are excused the third course of lectures when they can pass a satisfactory examination in certain elementary medical branches. This may mean almost anything—or nothing.

Medical Society of the County of New York.—At a stated meeting held November 28, 1881, the President, Dr. F. R. Sturgis, appointed the following committees for the ensuing year: *Committee on Hygiene*, Dr. Edward G. Janeway, Chairman, Drs. D. B. St. John Roosa, Stephen Smith, R. H. Derby, and F. M. Weld. *Committee on Ethics*, Dr. James R. Leaming, Chairman, Drs. J. Lewis Smith, Laurence Johnson, Chas. S. Ward, and E. L. Partridge. *Committee on Prize Essays*, Dr. Fordyce Barker, Chairman, Drs. Geo. A. Peters and A. E. M. Purdy. *Auditing Committee*, Dr. Horace P. Farnham, Chairman, Dr. J. Williston Wright.

St. Luke's Hospital, New York.—Dr. J. L. Little has been appointed Attending Surgeon to St. Luke's Hospital, in place of Dr. T. T. Sabine, and Dr. Sabine has been appointed Consulting Surgeon in place of Dr. Little.

American Public Health Association. — The ninth annual session of the American Public Health Association was held November 29th, at Savannah, Ga. There was a large attendance. The meeting was called to order by the President, Dr. Charles B. White. The following papers were read at the morning session: "The Contagious Diseases of Domestic Animals," by Dr. Ezra M. Hunt, of New Jersey; "Disease Among Texas Cattle," a continuation of the report made to the association at the New Orleans meeting, December, 1880, by Dr. J. R. Smith, United States Army; "A Report of the Examination of Hogs at the New Orleans Abattoir during the Summer of 1881," submitted by the New Orleans Sanitary Auxiliary Association; "Trichinæ Spiralis," by Dr. J. M. Partridge, of Indiana; "Trichinæ Spiralis in American and German Hogs," by Dr. F. S. Billings, veterinary surgeon, of Massachusetts. At the afternoon session the following were read: "The Kankakee, a Sanitary Problem in Indiana," by Prof. John L. Campbell, of Indiana; "The Comparative Vital Movements of the White and Colored Races in the United States," Dr. S. S. Herrick, of Louisiana; "The Disposal of the Dead," Dr. W. H. Curtiss, of Illinois; "The Relation of Alimentation to Infantile Development and Diseases," Dr. T. C. Duncan, of Illinois. In the evening a public reception was given at the Temple. The meeting was presided over by the Mayor. An address of welcome was delivered on the part of the city authorities by the Hon. George A. Mercer, and on behalf of the Georgia Medical Society of Savannah by Dr. R. J. Nunn. President White read his annual address. The association was afterward entertained at the residence of Dr. L. A. Tallegant.

An Outbreak of Vaccinal Syphilis is reported to have occurred at Algiers. Fifty-eight soldiers were inoculated with syphilitic vaccine lymph.

Dr. Theophilus Parvin is to be appointed to the Chair of Obstetrics and Medical and Surgical Diseases of Women in Louisville University.

Law to Prevent the Sale of Ecbolic Medicines.—A bill is before the legislature of Missouri to prevent druggists from selling ecbolic medicines without the prescription of a physician. According to the *Cincinnati Lancet and Clinic*, the bill, though aiming at a good object, goes too far.

A Homœopathic Insane Asylum.—The homœopathists of Massachusetts are making an effort to have a State asylum for the insane placed in their hands. If the experiment, when undertaken, succeeds—*similia similibus curantur.—Cincinnati Lancet and Clinic.*

Professor E. Lloyd Howard, of Baltimore, during an attack of uremic coma, recently fell into the Chesapeake Bay, and was drowned. Dr. Richard Gundry, the medical superintendent of Spring Grove Insane Asylum, near Baltimore, has been elected to fill the chair left vacant in the College of Physicians and Surgeons by the death of Professor Howard. The title of Professor Gundry's chair is Materia Medica, Therapeutics, and Mental Diseases.—*Cincinnati Lancet.*

Rabies, a Possible Cause and Probable Preventive.—This "possible cause," according to Dr. L. L. Dorr (*New York Medical Journal*), lies in the mixing of breeds. Hydrophobia may occur in all dogs, but it never originates in any but mongrels. The destruction of mongrels might stamp out the disease, only, unfortunately, no one knows exactly what dogs are of pure breed and what not. The "probable preventive" is a visit of the bitten person to the Pacific coast. No person has ever died of hydrophobia in that region, so far as is known.

Religion and Nursing.—Speaking about the character of the attendants of a sick person, Dr. J. M. Fothergill says: "A pious widow, with dyspepsia and strong religious convictions, is a ghoul when illness is about. She sucks the life out of an invalid like a moral vampire. As life ebbs she is sustained, and when the invalid has passed the portals of another world she goes away edified, strengthened, and encouraged in her murderous mission, fully prepared to extinguish the lives of any number of relatives if ill luck should prostrate them upon the sick bed."

Erythroxylon Coca in Asthma.—Four cases are reported in the *Medical and Surgical Reporter*, where coca was used with the greatest benefit in asthma.

# Original Lectures.

## THE REMOVAL OF FOREIGN BODIES FROM THE EAR.*

By D. B. ST. JOHN ROOSA, M.D., LL.D.,

PROF. OF OPHTHALMOLOGY IN THE UNIVERSITY OF THE CITY OF NEW YORK, AND OF THE EYE AND EAR IN THE UNIVERSITY OF VERMONT.

[Reported for THE MEDICAL RECORD.]

GENTLEMEN: The general practitioner is more likely to see cases of foreign bodies in the ear than is the specialist. Such cases are among the instances of every-day life. A little child at play, animated by some impulse of which adults know nothing, except when insane, will thrust such bodies as peas, beans, shoe-buttons, and the like into the auditory canal. Having once accomplished this feat, and being unable to remove the foreign body, the child often expresses anxiety and runs to its parents in great trouble. Sometimes, however, no such complaint is made, especially if the child has reached some years, and the discovery is made in the zealous efforts of mothers and nurses to clean the ears. The alarm caused by the discovery of a foreign body in the auditory canal is almost ludicrous; an alarm in the minds of the sufferer and friends, and sometimes even in the mind of the family physician. This alarm is usually entirely unnecessary. A foreign body in the auditory canal, unlike a foreign body on the cornea or in the eye, is a very harmless thing if properly treated. Even delay is not dangerous. I may venture to call your attention to a lecture upon the subject of foreign bodies in the eye, which was published in a recent number of THE MEDICAL RECORD, and you will note at once the great difference between the existence of a foreign body in the auditory canal and one in the conjunctival sac or in the cornea. It is true that a foreign body which has passed the auditory canal and entered the tympanic cavity is dangerous; but even then its danger, as regards life, is infinitesimal, if only it be left alone. The worst consequences usually are loss of the middle portion of the ear, and consequently of all acute hearing power.

There is another class of foreign bodies which may enter the auditory canal besides those already mentioned. Insects, such as the ordinary mothmiller, bed-bugs, earwigs, the ordinary house-fly, etc., are comprised in these. These enter the auditory canal without the instigation or assistance of any person, adults and children alike. I lately removed the dismembered remains of a croton-bug which had been for two years in the ear of a boy seven years old. The ear-wax had hardened around it, and it was from the symptoms produced by this mass that he sought relief. It was very difficult at first to obtain the history of an insect having entered the ear, but careful examination showed that the child had complained of his ears for a few hours about two years before, and at that time he said that something had gotten into it; but the pain passed, he ceased to speak of it, and the matter was forgotten until the remains of the bug were discovered in the plug of wax which I removed.

As I said a few moments ago, the alarm which is caused in the minds of the friends is the most striking symptom of the presence of a foreign body in the auditory canal. Let me say to you, then, at the very outset, do not be excited when a patient is brought to you who is said to have a foreign body in the ear. Let me tell you, in the second place, never to believe that there is a foreign body in the auditory canal until you have seen it with your own eyes, if you are the person who is to remove it. Take no man's, take no woman's, take no nurse's, take no person's word for this. Very bad results have occurred from the neglect of what seems to be a fundamental proposition. Ears have been syringed—much worse, have been treated with instruments; membrana tympani have been broken, ossicles have been dragged out, labyrinths have been invaded, and meningitis and death have been caused, by neglect of this simple rule. In other words, attempts have been made to remove foreign bodies from the auditory canal when there were none there. When you have time to review the literature of this subject you will find it sensational reading, and such as reflects no credit upon medical practice. Therefore, I say again, be sure that there is a foreign body in the auditory canal before you undertake to remove it. In two instances which I now remember, and I am sure there are others which I do not at this time recall, I have been summoned by competent medical men to remove foreign bodies from the auditory canal when they were not in that part, and probably never were, and I had great difficulty, in the two cases mentioned, in convincing the medical men that it was wrong to attempt to remove a thing which could not be seen. Statements of nurses and of mothers are often put beyond the testimony of one's own eyes. Now, in medicine, as I have often told you, we are to believe what we can see, what we can touch, what we can hear, and even all this with some reserve, for our deductions from what we see or think we see, from what we hear or think we hear, from what we touch or think we touch, are not always correct.

How shall we examine the auditory canal supposed to contain a foreign body? In the same manner in which we would examine it for disease of any kind—by means of the speculum and mirror. It is the method of examination which I have already described to you, and one which any competent man ought to be able to learn in five minutes. In lieu of the mirror, which may not be at hand in some instances, a piece of looking-glass answers very well; and a speculum can be easily extemporized by means of pasteboard. I speak of these things because I wish to impress upon your minds the fact that he only is a competent surgeon, he only is thoroughly at home in his profession, who can make the simplest appliances do his work. The picture of Alpheus Crosby boring the mastoid process with a gimlet, that of the surgeon amputating a leg with a jack-knife, are always very pleasant ones for the American medical profession to contemplate. They show great capabilities under difficulties.

Having once determined that there is a foreign body in the auditory canal, what are the steps for its removal? If the case has not been meddled with, your task will be sufficiently easy. If, however, the friends, in their well-meant, but unwise, efforts, have pushed the pea, or bean, or button down into the auditory canal, have lacerated the sensitive integument lining it, have broken the drumhead, have caused bleeding, and, worse than that, frightful pain, you will find your task a very difficult one. It may be diffi-

* A clinical lecture delivered in the University of Vermont.

cult because the foreign body may have been pushed beyond the canal and be imbedded in the cavity of the tympanum, and may have become impacted as the result of inflammatory action. It will also be difficult because of the restlessness and distress of the little patient. No human being who has had his ear roughly handled, even by supposed experts, will willingly consent to have it so handled again, no matter how great a reward is offered, even if he be told that to leave the foreign body there will be to endanger life.

But let us discuss the simple cases first—those in which the foreign body has been pushed in simply with the child's fingers, or where it has, as in the case of insects, entered by its own volition. What are you to do? Here we enter upon ground which, until within the last few years, I had supposed was settled. I may venture to quote myself as among the first to direct attention to this subject, in an article published in the *American Journal of Medical Science*, in 1864, and I supposed the principle had been established that the use of the syringe and warm water were the proper means for removing a foreign body from the ear. Nay, more, I had supposed it to be so well established that, in the case of any foreign body in the ear, a thorough attempt, by means of the syringe and warm water, should be made before any other measures are employed. But those of us who believe this—those of us who, as we thought, had undone the damage done by the writers of the dark ages, who attacked a foreign body as if it were a burglar, and hunted it down as if it were a fugitive from justice, have been confronted by passages in recent books from authorities on aural disease, which claim that those who use the syringe are clumsy and bunglers, and that removal by this instrument is a method never to be taught. As strong language as this has been used. But, after a careful consideration of all the aspects of the subject, I am not convinced by these recent writers. On the contrary, I think the teachings of these writers are dangerous, and that the employment of forceps, and ingenious extractors will take us back to the times of meddlesome surgery. There can be nothing more cleanly, nothing more harmless, than a stream of pure warm water, from the mouth of a syringe, directed upon a foreign body, so that the returning wave shall sweep it out; and it only needs to be fairly considered, in contradistinction to beautifully contrived forceps, admirably arranged snares, and all the other armamentarium of those who sneer at the syringe, in order to meet with your warmest approval.

If the case is one which has not been meddled with, a few uses of the syringe, without frightening the little patient, without causing any discomfort, will remove it. If, however, it has been pushed far in, or has lain long enough to swell, it will be sometimes impossible, after the most thorough trial, to remove it with the return wave of water. It will then be necessary to resort to the most careful surgical interference, and this must be done while the patient is under the influence of an anæsthetic, and the parts must be thoroughly illuminated by means of the mirror. Then it becomes an ordinary surgical procedure for the removal of a foreign body, and it is impossible to give any general rules for the performance of such a delicate operation. It is impossible to indicate beforehand what instruments should be employed. The ingenuity of man, which is sometimes as harmful as it is beneficial, has been seriously taxed in the efforts to invent instruments for the removal of foreign bodies in the ear. A very small dressing-forceps, a pair of angular forceps, and a curette will be generally found to be sufficient for any case unless it has been meddled with to such a degree as very rarely occurs. If the foreign body has been firmly impacted in the bony parts, it will then become a serious question as to how far interference should go. It scarcely falls within my province, as a teacher of the principles of aural surgery, to speak at any length upon this subject. Delay can always be safely practised, and the best surgical consultation will be needed in such cases. I am speaking to you as to general practitioners, who are to be fully armed to meet the emergencies of an ordinary practice. Such a case as one in which a foreign body has been wedged into the deeper auditory apparatus is clearly beyond the province of any general practitioner.

Paul of Ægina, in 680, reinforced by Von Tröltsch in 1864, recommended an operation for the removal of impacted foreign bodies in the ear, which has lately been performed by myself and by Dr. Orne Green, of Boston. This operation consists in the detachment of the auricle from the auditory canal. Such an operation gives very complete access to the cavity of the tympanum, and despite the objections of theoretical reviewers, it is entirely practicable. The necessary incisions heal readily, and it is by no means a formidable operation.

If you chance to be in the woods with a friend into whose ear an insect has entered, the simplest method of removing it is to pour in some water, warmed by the hand, until the insect can be dislodged. When flies and maggots gain entrance to suppurating ears, the case is one for simple treatment with the syringe, first using some agent which will kill the fly or maggot, such as carbolic acid, Labarraque's solution, or the like; after this, the stream of warm water may be employed. An attempt to remove them with the forceps only makes them more lively and increases the difficulty of their removal. Fortunately, with the advance in our knowledge as to the methods of examining and treating the ear, these cases of maggots entering a decomposing mass deep in the canal are very rare. Ancient literature, however, has much to say on this subject.*

I will now show you the proper method of syringing the ear. There is no difficulty with regard to wetting the clothing or causing any discomfort, if the following steps are taken:

In the first place, the patient should be comfortably seated. In the second place, if the patient is not old enough to hold the bowl under the ear, it should be held by some friend and well into the glenoid fossa. The first injection or two should be made very gently, and then, perhaps with more, but never with great, force. The resisting power of the drumhead is very great, as physiological experiments have shown, and there is little danger of rupturing it; but there is danger of violent syringing causing fainting and vertigo, and you should stop frequently to inquire whether or not the operation is disagreeable. In the youngest subjects, if properly done, it will be a pleasant manipulation, and, what is much better than that, it will generally be entirely successful.

In concluding what I have to say upon this subject, I venture to recapitulate. First, be sure that

* Dr. Gruening, of New York, has lately reported a case of maggots in a healthy ear, which I believe to be a unique case. Dr. Gruening will report this case in full in one of the journals.

there is a foreign body in the ear. Second, remove it by syringing, if possible. Third, wait quietly, if it is so wedged in that it cannot be removed in this manner, until you can secure competent assistance, and then proceed with care and caution, and with such instruments as your ingenuity and the ordinary instrumental collections of aural surgeons will furnish.

# Original Communications.

## ADJUVANTS, CORRIGENTS, ETC.*

By F. A. CASTLE, M.D.,
NEW YORK.

Recent writings upon the antagonism of therapeutic agents, which have been quite widely read, have greatly increased the attention given by physicians to this important subject; but while much that has been written relates to observations made with toxic doses upon animals, or upon human beings in comparative health, we have but few reliable data, as yet, that can be utilized in the treatment of disease. With all that has been written, not much has been added to our knowledge of the important class of medicines investigated by John Harley. Since his time curare, muscarin, Calabar bean, picrotoxin, etc., have been studied by the physiological pharmacodynamists, but none of these agents are commonly used as remedies, and in a case of poisoning by any one of them (a matter of no probability) the special antidote, as shown by experiments, would be hardly obtainable outside of large cities, and then only after a delay which would permit, unaided, the death or recovery of the patient.

A question of more practical importance is the influence exerted upon each other and upon the system by medicines in common use, when administered conjointly to sick persons. Belief in the value of such combination is almost as old as the art of medicine itself, but exact evidence of the nature or degree of the modification secured is notably lacking. At a period not very remote, remedies were classed according to their supposed qualities of heat, cold, moisture, or dryness, and, according to this theory of their natures, were combined with a view to augmented or otherwise modified effects. We have long since ceased to believe in the truth of this and numerous other systems equally irrational, and the result has been that, with our increasing knowledge, medical compounds have become progressively less complicated, until now it is probable that most physicians rely mainly upon simple agents. There are still, however, abundant traces of a belief in the efficacy of combination, and writers of systematic treatises upon therapeutics and the art of prescribing feel in duty bound to state that great advantages often follow the combination of active remedies; but the illustrations usually mentioned in proof of this are the mysterious properties residing in a mixture of sulphate of potash, opium, and ipecacuanha, the value of aromatics and diffusible stimulants when combined with purgatives, or of squill when given with digitalis, etc.

The tendency toward lessening the number of ingredients in medical compounds is especially noticeable in the various pharmacopœias. One substance after another has disappeared from officinal formulas, until a point has been reached at which of some it would be proper to remark—as was the case in one of the reports sent to the last Pharmacopœial Convention—that if any further pruning were contemplated, it might be as well to drop the preparation altogether.

There is especially a field for speculative thought in the multitude of formulas published in current medical literature. There is hardly a journal that does not cast these polypharmacal sops to that class of its readers who seem to treat diseases according to some system of nomenclature, and from whom the individuality of a patient and the nature of his surroundings receive but little thought. There are said to be practitioners who look upon these productions as the very essence of wisdom, and who carefully copy them into pocket-books, that they may be ready for emergencies; but it has never been thoroughly appreciated that the person who finds these formulas most serviceable is likely to be the printer, who, by omitting an ingredient now and then, makes his columns of equal length. It hazards little to presume that such modifications have but a very trifling influence upon the scientific value of many of the formulas so treated.

It must have been a practitioner of the sort here referred to who reported at a recent medical convention that he had used the following in the treatment of diphtheria:

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| Sublimed sulphur | gr. viij. |
| Boracic acid | gr. iv. |
| Benzoic acid, | |
| Salicylic acid, | |
| Tannic acid | āā gr. j. |
| Tartaric acid. | |
| Chloride of sodium | āā gr. iv. |
| Resorcin | gr. j. |

Mix. A little to be put on the back of the tongue every hour or two.

Yet this gentleman remarked that, after treating six or seven hundred cases of diphtheria, his faith in the efficacy of drugs was very feeble.

Occasionally we hear of a prescriber who has decided views with regard to the properties of the agents that he uses, and who can give the why and wherefore for each element of his formulas, and even justify his faith on what he deems to be scientific grounds. Such, undoubtedly, was the old gentleman whose "peristaltic persuaders" were made in three layers; the outer of lunar caustic, to serve as a gastric stimulant; the intermediate one of aloes, to increase the activity of the mucous and muscular coats of the intestine, and the inner one of belladonna, the special function of which was to cause, at the proper moment, a favorable relaxation of the sphincter ani. Some special skill was required to apportion the thickness of the respective coats to the length of the patient's gut, and the old gentleman must have died before completing his original observations and publishing his tables of proportionate quantities, since no manufacturer has yet placed this marvellous pill within the reach of a constipated public.

While the accurate knowledge we possess of the manner and degree in which medicines may modify each other's action is, as has already been remarked, by no means extensive, and is only to be met with incidentally in treatises on materia medica, there appear to be a few established facts to be considered

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in practice; and it is reasonable to presume that if such alleged and isolated facts were gathered into available shape, and the doubtful cases duly indicated, some persons might take the trouble to verify the one or correct the other. While the importance of experiments made upon animals and healthy human beings cannot well be overestimated, it is to such *clinical* observations that we must look for practical advances in therapeutics.

It would be interesting to have a published commentary upon the formulas which from time to time have been officinal, giving the reasons that led to their adoption. Undoubtedly many of them have owed their popularity to the personal influence of their authors, while others were constructed according to some therapeutical theory prevalent at the time of their adoption. We occasionally find, however, with increased knowledge of such matters, that we are able to explain why some remedial compounds were advantageous, and we are forced to admire the acute power of observation possessed by their empirical originators.

As an instance of what follows a slight effort to trace the history of a pharmacopœial preparation, let us take the pill of aloes and myrrh. As now officinal it consists of aloes, myrrh, aromatic powder, and syrup. In the British pharmacopœia the formula more closely resembles the older ones, and contains aloes, myrrh, saffron, and confection of roses. These latter are likewise the ingredients given in the Edinburgh Pharmacopœia of 1841, and the Dublin Pharmacopœia of 1850. In the London Pharmacopœia of 1851, soft-soap and molasses took the place of confection of roses as an excipient. As long ago as 1765, John Theobald, M.D., in the sixth edition of his "New Compendious Dispensatory," gives the following description of this pill:

"Take two Ounces of Socotorine Aloes; an Ounce of Myrrh; and an Ounce of Saffron. Make them into a Mass with Syrup of Buckthorn." This Theobald calls Rufus' pill, and says of it: "This, from its Warmth to the Stomach and Bowels, and its gentle Method of Working, is deservedly ranked amongst some of our best Purgatives. It is peculiarly made use of in cold Constitutions and Indigestions; and, by greatly promoting the menstrual Discharges, will, without any other Assistance, frequently cure a Chlorosis, or the Green-Sickness. The quantity to be taken of this Mass is about Half a Dram. This Pill given in moderate Doses, viz.: four or five Grains, three times a day, will, from a Cathartic, become a very good Alterative; and, continued for some time, will compleatly relieve any obstructed habit."

Going back another century (1649), we find in Paré's treatise on "The Plague," the following:

"The pills of *Ruffus* are accounted most effectual preservatives, so that *Ruffus* himself saith that he never knew anie to be infected that used them. The composition of them is thus:

"Take of the best Aloës half a dram, of Gum *Ammoniacum*, two drachms; of Myrrh two drams and one-half, of Mastich two drachms, of Saffron seven grains: put them all together and incorporate them with the juice of Citrons, or the syrup of Limons, and make thereof a mass, and let it be kept in leather; Let the patient take the weight of half a dram evrie morning two or three hours before meat, and let him drink the water of Sorrel after it, which through its tartness and the thinness of its parts doth infringe the force and power of the malignitie or putrefaction: For experience as taught us, that Sorrel being eaten or chawed in the mouth, doth make the pricking of Scorpions unhurtful. And for those ingredients which do enter into the composition of these pills, Aloës doth cleanse and purge, Myrrh resists putrefaction, Mastich strengthens, Saffron invigorates and make's livelie the spirits that govern the bodies, especially the Vital and Animal."

Still another century earlier (1557), we find that pil. rufi was made, according to Squire, of aloes two parts; myrrh, one part; and saffron, one part: with white wine enough to make a mass.

Without going still farther back to consult the "Companion" to the Noachian medicine-chest, we will observe a notable difference in the ingredients and proportions of the formulas quoted. Paré's formula contained about one-fourth aloes, and the dose administered would give about two grains. Theobald's formula was about half aloes, and the patient would get either fifteen or two to two and a half grains, according as the purgative or alterative dose was used. The British formula contains one part in three of aloes, and the dose (five to ten grains of the whole) is about that of the earlier formulas. The virtues claimed for this pill are now by no means so important or numerous as heretofore, and a study of the separate ingredients leads to the suspicion that after all, the aloes is the only *active* one, the myrrh serving mainly to secure its subdivision in a manner that favors the action of the intestinal fluids upon it. Almost any resinous body would very likely act as well. This must also have been the only usefulness of the mastich; but how far the saffron acted as an emmenagogue, or otherwise, is still undecided, nor is it likely to be determined, in view of the fact that for many years saffron has been expensive, very liable to adulteration, rarely in the market, and but very seldom used as a medicine. The syrup of buckthorn of Theobald's formula was calculated to increase the activity of the compound, and none of the vehicles since used would appear to have been so well chosen. This is notably so in the London formula of 1851, in which soft soap was used, for Barnard S. Proctor has shown pretty conclusively that extract of aloes in combinations with caustic alkalies is oxidized and loses its bitter and purgative properties. The same observer found that an acidulous solution of aloes appeared to be less liable to change. Now, the earlier formulas for "Rufus'" pill were made with an acid vehicle—as will be seen above—a fact which the authors of the Edinburgh formula appear to have quite ignored.

I have by no means noticed all that might be said even in outline, respecting the questions raised by so hasty an examination of this one compound. A similar analysis might be made of nearly every preparation in our pharmacopœia. It is worthy of notice that little advantage has yet been taken of therapeutic facts already quite well established, to modify the formulas that yet remain officinal. The changes of late years have mainly been in the direction of uniformity in nomenclature, choice of active materials, and improvement in pharmaceutical processes. Looking through the edition now current, one observes that in the sixty (or thereabout) preparations intended for internal use, which contain adjuvants or correctents, these accessory elements are mostly carminatives or diffusible stimulants, and that their use is to improve the flavor or render the stomach or intestine more tolerant of the presence of the compound rather than to increase its effect upon the morbid state for which it is prescribed. Excepting in two or three instances the complicated formulas of the pharmacopœia are to be found among the exp-

torants and cathartics, and closer examination will show that even among these are many preparations but comparatively little used, such as confection of senna, pills of aloes and assafœtida, pills of aloes and mastic, pills of calomel, antimony, and guaiacum (or Plummer's pills), compound pills of galbanum, compound pills of squill, powder of aloes and canella, tincture of rhubarb and senna (or "compound tincture of rasins," as it has been called), troches of ipecacuanha and morphia, wine of aloes, wine of rhubarb, fluid extract of spigelia and senna, and so on. The retention of some of these relics of antiquity is probably due more to a spirit of conservatism than to a favorable appreciation of their value on the part of any considerable number of practitioners. Even the compound cathartic pill, which in time past has been thought to embrace as many of the virtues and as few of the defects of such compounds as human ingenuity could suggest, seems to be losing its hold upon professional favor, since it is not found to be a desirable formula for prolonged use, and the ingredients of which it is prepared are apt to be adulterated or deficient in strength.

One probable reason for the abandonment of these time-honored formulas is the fact that we are better able, through our knowledge of the functions of the various portions of the digestive system, to attack the source of trouble with a single corrective, or, to use an illustration somewhat hackneyed, with a rifle instead of a shot-gun. While the formulas in common use have become more simple, thus lessening the difficulty of studying the effects of their ingredients, we have gained something in the same direction by a better knowledge of the active principles of drugs, and the ability to isolate some of them without impairing their virtues.

I regret that I am not able to offer here the results of original observations upon the effects of combined remedies, and I present the following notes more as evidence of the fragmentary character of our information than because I think the facts unfamiliar. It will be hardly necessary to say that they do not embrace all the observations that have been made upon the conjoint action of remedies. Of some of them it may be doubted whether the agents used really *do* influence each other's action, and whether, as in the case of opium and subnitrate of bismuth, used together in the treatment of intestinal derangement, each does not manifest its characteristic action, its effects being superadded to those of the other.

In the literature of this subject, the writings of Dr. Harley appear to be most complete. He says, regarding the modifications caused by narcotic remedies upon each other's action:

"In medicinal doses the hypnotic effect of morphia is both increased and prolonged by atropia. When given simultaneously or previously, atropia prevents the nausea, vomiting, faintness, and insomnia caused by opium, and in doses of $\frac{1}{100}$ of atropia to $\frac{1}{4}$ gr. of morphia, atropia neutralizes the effect of opium in contracting the pupil. When given successively, the one given last, *for a short time*, counteracts the effects of the other. All the other effects of atropia are intensified by the action of morphia.

"Atropia increases the cerebral and deliriant effects of opium.

"When we find two sets of involuntary muscular fibres under the control of the cerebro-spinal and sympathetic systems, atropia will diminish the cramping and convulsive effects of opium. In other localities these effects are increased. Atropia does this through the sympathetic system, on which it is especially active. Belladonna removes the respiratory difficulty only in so far as it relaxes spasm of the bronchial tubes, and does not affect the respiratory muscles. It thus indirectly relieves over-distention of the right side of the heart, and, moreover, serves directly as a stimulant of the heart's action.

"These *local* effects are the only ones in which an antidotal action is manifest, the general effects of each being augmented by the other.

"The advantages to be gained by a combination are in cutting short the early stages of an inflammation, and the production of sleep and analgesia by opium, without its stimulant effects. It prevents the diminution of the action of the bowel, kidneys, and liver by opium.

"In the last stages of phthisis, when opium is indicated for the relief of troublesome cough, the tendency to produce sweating sometimes prevents its use. This effect can be avoided by the addition of atropia or belladonna."

The two combined may be used with great success hypodermically in chloroform anæsthesia, when the stage of excitement is shortened and much less of the anæsthetic agent rendered necessary. This latter fact is reasserted by J. M. Fothergill.

"Conium alone strongly predisposes the brain for sleep, by allaying excitement of the motor centres, and thus removing restlessness or agitation of the muscular system. Opium alone occasionally fails to procure sleep, on account of its tendency to induce or to increase existing excitement of the motor centres. This nascent tendency of opium to excite convulsive action is antagonized by conium. What is lacking in the one drug is completed by the other, and together they form a most perfect combination for bringing repose to every part of the body."

The uses of this combination are, in practice, "the facility it gives for lessening the dose of opium, and the avoidance of the uncomfortable phenomena sometimes seen in persons who are unfavorably affected by opium."

Opium and veratria appear to have a degree of antagonism when used in toxic doses, but I am aware of no published observations upon their effects when used therapeutically.

Conium and hyoscyamus act together somewhat similarly to opium and conium. "The akinesiant power of conium predisposing for the hypnotic action of henbane, while the general sedative influence of the latter assists the action of the former. Given together, the effects of the conium are first declared, and then quickly follow those of the hyoscyamus; and while the hemlock appears to accelerate the action of the henbane, the latter prolongs the influence of the conium for an hour or more beyond the usual period of its action."

A combination of opium and hyoscyamus, according to Harley, forms one of the most powerful of narcotic combinations.

Conium with belladonna behaves similarly to conium and hyoscyamus.

Caustic potash and soda decompose atropia out of the body, but, given internally, appear to have no effect on the action of belladonna. Caustic ammonia and lime-water should never be added to mixtures containing belladonna, as they completely neutralize its effects when they have remained two or three days in contact. Carbonates of the alkalies

and alkaline salts are innocuous. Acids have no particular effect on this remedy.

The study of the antagonism between belladonna and jaborandi has, as yet, produced too little in the way of therapeutic results to warrant much consideration. The same may be said of belladonna and muscaria.

Digitalis often fails to act as a diuretic until combined with bicarbonate of ammonia or with squill. Either of these adjuvants alone serves as a cardiac stimulant, and it has been claimed by numerous writers that it is only by increasing vascular tension that digitalis ever causes diuresis. Stillé is of this number, and positively asserts that, aside from this mode of action, digitalis possesses no diuretic properties. If this were so, the digitalis might, perhaps, be dispensed with, and the ammonia or squill be given alone.

In speaking of this diuretic effect of digitalis, it may be remarked that there is some ground for a belief that the diuretic principle of the drug is not soluble in alcohol, and that digitoxin, which appears to influence the action of the heart most powerfully, is not very soluble in water. Therefore, in using digitalis therapeutically, the infusion should not be chosen as a cardiac remedy, nor the alcoholic preparation when diuretic action is desired. The aromatic which is added to the infusion of digitalis serves not only to improve the taste of the tea, but also acts, perhaps, in a slight degree, as a diffusible stimulant.

It may here be observed that infusion of digitalis, if made as other infusions are not unfrequently prepared, from the fluid extract, will, as a rule, be found devoid of diuretic effect.

In formulas intended to increase vascular tension, ergot might be combined with digitalis.

None of the recent writers on the antidotal action of remedies appear to have taken note of a fact mentioned by Dr. E. R. Squibb, that inhalation of nitrous ether will cause contraction of the arterioles after paralysis of their coats by amyl nitrite, pallor of the face being one of the notable effects of inhalation of this ether.

This question of solubility, or what often amounts to the same thing, subdivision, is an extremely important one, and is not always duly considered in prescribing. As instances of this, we occasionally meet with formulas in which morphia, strychnia or arsenic are directed to be incorporated with a pill. Iodine can be given internally when in dilute solution, or finely subdivided with starch, when a corresponding dose entire of the pure substance would prove troublesome. Tannin needs usually to be given in *solid* form, owing to the difficulty of taking it otherwise, but when its styptic effect is desired, water must be given subsequently to insure its solution. In many mixtures the value of adjuvants and corrigents—or the things that have been so reputed—is, doubtless, that they serve to subdivide the active remedy and enable it to be more readily dissolved, or to extend its local effects over a wider area, and thus render it less irritant.

Brown-Séquard combines vegetable bitters with bromides as a means for maintaining the digestive functions during a long-continued use of the latter, and bicarbonate of potassium or sodium for the same purpose. A mixture of bromine salts often avoids the bromism caused by one of them. Bromides prevent or lessen the giddiness, confusion of mind, faintness, headache, and nausea often caused by opium, and increase its hypnotic effect. Arsenic given with bromides lessen their tendency to cause acne.

Iron may be given with potash when the latter is used in the alkaline treatment of gout, and by its effect in maintaining the composition of the blood avoids the destructive effects of the potassium salt upon this fluid. It has a similar effect when given with mercury, as when the latter is taken for long periods and large doses in cases of syphilis. Owing to the astringency of most of the iron salts, it is found expedient to administer with them some agent that increases intestinal secretion. Aloes is often used for this purpose, and the sulphate of potash in "Griffith's mixture" undoubtedly answers the same end. It is generally considered that the action of a laxative facilitates the constitutional effects of iron, and this may be owing to the increased supply of fluid in the intestine serving to dissolve the iron salt or albuminate, and to the lessening of vascular tissue, thus favoring absorption. Blaud's pill is practically Griffith's mixture in solid form without the myrrh, but Ringer says it acts just as well without the potash salt.

When given in combination with iron, iodine causes the iron to appear with the iodine in the saliva. This is used by Gubler as an illustration of what will be mentioned hereafter, viz., that by selecting a substance as an adjuvant which is capable of stimulating a special secretion, we may influence the escape through that channel of the remedy with which it is combined.

When camphor is administered with cantharides, the effects of the latter upon the kidneys and bladder will be more or less obviated. As camphor does not pass through the kidneys, it is possible that it forms some combination with the cantharadin which prevents its escape through that channel.

The resins of myrrh, benzoin, mastic, storax, Peru, Tolu, copaiba, guaiacum, assafœtida, jalap, scammony and gamboge, and neutral acrid principles, such as cantharadin, piperin, hydrastin, colocynthin, elaterin, and capsicin, are, with some exceptions, soluble only in the presence of alkalies. A few are also soluble in acetic acid. When, therefore, these substances, or the corresponding drugs, are introduced into the intestinal tract, with a view to their absorption into the circulation, an alkaline menstruum or excipient should be selected. In the choice of the special alkali we may gain something by choosing one whose base is excreted by the same organ that finally separates the more active remedy, or its products, from the blood. Thus, with expectorants, an ammonia salt may be given, with diuretics, potash or soda salts; the latter may well accompany the cholagogues, while magnesium salts might best be added to the gums, resins and their congeners that chiefly affect the mucous membrane of the intestine. It seems, indeed, that by a choice of adjuvants we may sometimes determine which one of two or three excretory organs a remedy may be made to most profoundly affect.

Following Dr. Ringer's observations of the effects of acids and alkalies in stimulating the flow of secretions having an opposite reaction, alkalies should be combined with bitters when taken before meals as stimulants of the appetite and of gastric secretion.

Aloes when given at meal-time is not apt to cause griping, but when so given it should be coated with some substance that will protect it until it reaches the intestine, as it is liable to disturb digestion. Owing to the fact that it requires first to be absorbed before it can produce its specific effects upon

the intestine, it is slow in action, and should not be combined with quick-acting purgatives, as in this case it would be swept out of the intestine before it had time to enter the circulation. Sulphate of iron appears to render aloes more active. Alkalies lessen considerably the activity of aloes when in contact outside the body, and the presence of an acid seems to prevent loss of strength through oxidation of the active principle. Ipecac given with aloes renders its action milder—in just what respect is not mentioned. The same is said of the aromatic oils. Hyoscyamus prevents the griping that sometimes attends the action of aloes. Alcohol renders aloes much less active than when it is given in solid form.

An extract of senna made with alcohol is quite inactive.

Podophyllin is said by eclectic practitioners to have its griping effects considerably intensified by chloride of sodium and alkalies, and lessened by lactic acid. Is this any more true of podophyllin than of other resinoid purgatives, nearly all, as we have seen, being more soluble in alkalies? Decomposition of the chloride may take place in the intestine and furnish the proper condition for increasing the solubility of the resinoid, hence its greater activity.

Jalap is said by Buchheim to act as a purgative only when combined with bile. The same is said by him of scammony, and he attributes this to the presence of soda in the bile.

Calomel in its ordinary form is insoluble, and requires either the presence of mucus, albuminoids or acids to cause its absorption. Theoretically it should not be given with chlorides, and this has led to salty food being interdicted when it is taken. This is, however, somewhat a matter of tradition.

Although the resinous purgatives are all said to act better when combined with calomel (its cholagogue effect furnishing the bile-soda for their solution), it is not desirable to employ calomel as an ingredient in a pill that needs to be repeated for some time to remove a habit of constipation.

While we cannot as yet explain satisfactorily the entire mode of action of the resinous purgatives, there is little doubt that a portion of each is absorbed and subsequently eliminated by the liver and intestinal glands, in connection with an increased intestinal secretion. We can also believe, from the "griping" that for some time precedes the escape of the intestinal contents, that the unabsorbed portion causes irritation and irregular and cramp-like peristaltic movements of the gut.

A profitable field for experiment would be the use of these substances in doses no larger than would be capable of being absorbed, triturating them with milk-sugar or some other vehicle to cause minute subdivision, combining them with alkalies to insure their ready solution and passage through the intestinal capillaries, and enveloping them in a gelatin coating to facilitate their passage through the stomach during the later stages of gastric digestion. Instead of depending on the irritant effect of undissolved resin to hasten peristaltic movements we use, instead, as an adjuvant, the saline purgatives of low diffusive power, which cause a transudation of blood-serum into the intestinal cavity, so wash out its contents. Such a combination should, if this theory of its action be correct, give us an efficient purgative unattended with disagreeable and unnecessary effects.

Sulphuret of antimony, as ordinarily administered, is uncertain and variable in its effects, the fact being that it requires an acid medium to insure its absorption.

Owing to its capacity for relaxing arterioles and increasing the secretions of all mucous membranes, ipecacuanha should be an ingredient in many cathartic compounds.

Morphia and tannic acid prevent the purgative effects of sulphate of magnesia.

Santonin is said by Küchenmeister to require the presence of an oily adjuvant to enable it to destroy ascarides.

When turpentine is given as a purgative, its irritant action is not always sufficient to secure its elimination before a sufficient amount has been absorbed to cause disturbance of other organs of the body. For this reason another purgative—such as castor-oil—should be combined with it to hasten its expulsion.

When tonics are given with purgatives, the amount of the latter required is considerably lessened.

When arsenic is given in the treatment of dartrous affections, nutritive changes are more rapid when the intestinal secretions are stimulated by laxatives.

Chloral is apt to cause paralysis of the muscular coat of the arterioles. This may be avoided, in a measure, while its hypnotic effect remains, by giving strychnine or belladonna with it. Its hypnotic effect is increased by the addition of the bromides, or small doses of morphia.

This is likewise true of all the narcotics which individually act on different portions of the nervous system (as opium, belladonna, ether, and hydrocyanic acid), since they produce better effects when combined than when used singly, and the relative size of the dose required is smaller.

Bartholow recommends chloral in the second stage of inflammations, to reduce the temperature, quiet restlessness and delirium, and dissolve the exudations. To avoid its paralyzing effect upon a weak heart, small doses, not repeated more often than every two hours, should be accompanied with atropia, which sustains the heart's action and does not interfere with the other effects of the chloral.

Strychnia has been found by Fothergill to serve as a respiratory stimulant in dyspnœa caused by opium. In a case of renal disease, in which strychnia was employed as a respiratory stimulant, and in which œdema of the legs supervened, the latter disappeared upon the addition of digitalis. Ammonia serves also as a respiratory stimulant, and when combined with opium, prevents the dyspnœa sometimes caused by the latter.

Chloral has been found to be an antidote to the toxic effects of strychnia, but I have yet to know of any experience derived from their use therapeutically, in which the chloral was employed as a corrective of the other.

Strychnia may be added to expectorant remedies when it is desired to increase the activity of the respiratory function. It is also serviceable in chloroform anæsthesia to prevent failure of the respiration or circulation, and may well be administered hypodermically before the inhalation of chloroform.

When potassic salts are required in full doses, their depressant effect upon the heart can be greatly obviated by strychnia or digitalis. This is especially the case in gout with dilated heart.

Gaillard says that ammonia, occasionally administered by inhalation during chloroform-anæsthesia, prevents heart-failure. Alcohol has frequently been

administered before an operation for the same purpose.

Another instance of the value of combination, is the recent demonstration, by members of the New York Therapeutical Society, of the value of sulphuric ether as a corrigent for cod-liver oil when internally administered.

Carbonate or spirit of ammonia, given with iodide of potassium, are said to control the symptoms of iodism in some cases.

Opium renders iodide of potassium inert.

The effects of quinine are said to be counteracted by diffusible stimulants, but whether all of its effects are so antidoted (which is hardly probable, as we know of no substance which is a perfect antidote for any other) is not generally stated. Hydrobromic acid and bromide of potassium, we are now well aware, lessen the cerebral symptoms of cinchonism, and to some extent lessen other disturbances of the nervous system by this agent.

Alkalinity favors the absorption of arsenious acid and of salts having alkaline bases, or which are made insoluble by acids.

In the administration of many remedies, it is desirable to secure a diminution of arterial tension before their absorption can take place, and this is usually effected by stimulating the excretions; thus, a purgative is given before quinine and during the continued use of iron, arsenic, iodine, antimony, etc.

I have made but little attempt to classify the observations above enumerated, and well appreciate that I have failed to do such justice to the subject as its merits demand. If such classification and analysis as is quite possible should be made of these and similar statements, it might, I think, be shown that in most cases absorption, vascular tension, activity of the nerve-centres which control respiration, circulation, and secretion, and those more subtle changes which go on in the ultimate structure of tissues, and which are modified by the presence in them of therapeutic agents, are the conditions which are chiefly controlled by remedies administered conjointly; that the ways in which remedies modify *each other* are physical rather than vital, and are, as a rule, manifested previous to their entry into the circulation; that we know as yet very little that is reliable about the modes or degrees in which remedies administered together affect vital functions in a manner not possible to either when administered singly; that the only real advance in this direction has been through the study of individual remedies and a thorough acquaintance with their properties before administering them in combination; and that, generally, the possession of pure and active medicines, in suitable form for administration, is of far greater importance than any effect that is likely to result from such combination. When our medicinal agents shall be chosen and prepared in such manner that each possesses uniform activity, we may be able, in most cases, to graduate the amount used, so that no corrigents will be required to prevent excessive and undesirable effects. The nature of a disease being comprehended, we shall then apply our remedies for the relief of its symptoms, or the modification of its results, better than we can now hope to do with drugs about which we know little, in combinations about which we know less.

NEW YORK, October, 1881.

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THE AMERICAN JOURNAL OF OBSTETRICS will, after January, 1882, issue a monthly supplement.

## HYDRANGEA IN RENAL CALCULUS.

By BENJAMIN EDSON, M.D.,

BROOKLYN, N. Y.

ATTACKS of nephritic colic may generally be alleviated by the use of relaxants and anodynes, but the peculiar conditions of the system that determine the renal deposits may continue for years, or indefinitely, despite the most approved rational treatment. Frequently serious lesions of the kidney are produced, and life is thus sometimes shortened.

The uncertainty, not to say failure, that often attends the treatment of these cases will warrant the presentation of the history of a single case, in which the use of hydrangea was attended with results highly encouraging.

About three years since, Mr. M. A——, thirty-three years of age, of full and robust habit, came under my care for an attack of renal colic. By means of the hot bath, and the free use of morphia, that particular attack was in due time alleviated.

I learned that for nearly four years he had suffered at varying intervals from this trouble. Sometimes he had but a single attack in a month or two, but more commonly he had them as often as once a week. Their ordinary duration was perhaps from two to six hours, but they sometimes lasted for twenty-four hours or even longer. That they were severe may be judged by the fact that the patient sometimes fainted from the excruciating pain. The deposits were of the uric acid variety. The urine at various times contained blood, mucus, and muco-pus.

He had been under the care of reputable physicians, who had prescribed the standard remedies usual in such cases. Under their treatment, however, little if any relief had been afforded. There seemed to be but little more for me to do than to go over about the same ground. I did so, using freely the vegetable potassium salts, and paying considerable attention to his habits and diet, particularly prohibiting the excessive use of saccharine substances to which he had always been addicted. After having him under observation for more than a year, I could not discover any diminution in either the frequency or the severity of his attacks.

In the early part of last year I saw reported two cases of renal calculus successfully treated with hydrangea arborescens. My impression is that these cases occurred either in Georgia or Alabama, but just where they were reported I cannot now tell.*

In May, 1880, Mr. A. was suffering from attacks of renal colic as often as once in a week or ten days. I then put him upon fluid extract of hydrangea, ℥j, t. i. d. The result was as gratifying as it was unexpected. For the next eleven months he had but a single attack. The genito-urinary troubles also improved in a marked degree.

In April last, considering himself well, giving up the use of the drug, and probably becoming less prudent in his habits, he had two or three slight attacks of his former trouble. He has since been taking the drug, and has been free from any further attacks of renal colic.

How long he will be compelled to continue the medicine, and whether he will be permanently relieved so as to forego its use altogether, I cannot predict with any degree of certainty. That the drug has exerted a marked control over the disease is beyond question.

Whether its remedial action consists chiefly in its

* *Vide* cases of Dr. E. B. Freeman, of Barton, Ala., MEDICAL RECORD, vol. xvii., p. 471.—ED.

increasing the amount of urine secreted, or whether its presence determines the proper oxidation of the waste products, I am not prepared to say. Nor would it be wise to assume that the drug will always act thus favorably, nor, perhaps, equally well in the case of oxalate and phosphatic deposits.

In addition to the two cases already referred to, I simply give this case for what it may be clinically worth.

## UNDEVELOPED UTERUS WITH APPARENT ABSENCE OF OVARIES.

By EMMA WARD EDWARDS, M.D.,
NEWARK, N. J.

L. S——; single; aged thirty-nine; American; height, five feet three inches; weight, about one hundred and fifty pounds; with exception of slight paleness, quite healthy in appearance. On November 1st applied to me for a certificate of health, in order to procure a life insurance policy. Stated she had never needed the services of a physician but once during her life. Nine years ago she had been ill with gastric fever. Heart and lungs were normal. In the course of the examination questions elicited the fact that she had never menstruated. She made no objection to an examination of the pelvic organs, nor did she appear curious to know in what way she was unlike others of her sex.

The mammary glands were very slightly developed.

The external organs of generation were like those of a girl when the first signs of puberty are seen.

The vagina was remarkably long aad capacious for a virginal one. The rugæ nearly absent. No hymen nor evidence of one having existed. At first I could find no uterus, but finally discovered a very light and movable body about the size of a lady's thimble. Nothing like a cervix could be felt in the vagina, nor indication of an os uteri. As far as could be ascertained, no ovaries were present. There is not, nor seems ever to have been, any menstrual molimen. One of the most striking features of her case was her complete indifference to her menstrual condition. She casually remarked she supposed she was the one-hundredth woman.

Upon inquiring her meaning, she told me she understood that every hundredth woman did not menstruate and every hundredth man did. Have any of your readers heard of this remarkable popular notion?

**Punishment in the Medical Department of the Navy.**—The following account of an unpleasantness in the navy, is given by the *Nautical Gazette:* A big bully of a passed assistant surgeon recently cursed and menaced a little meek passed assistant surgeon, which resulted in the court-martial of the former; the sentence of the court was that the big bully be suspended from duty for three months and be reprimanded by the Secretary of the Navy. The suspension from duty is equivalent to a leave of absence for that period, without pay, and the reprimand was, we should say, more of a punishment for the Secretary to write than for the surgeon to receive. While the bully is enjoying his leave, the meek little surgeon has been ordered to shore duty at Nagasaki. This kind of administration of the Navy may be expected to revive the code among its officers.

## ALCOHOL IN THERAPEUTICS.

By LEWIS D. MASON, M.D.,
FORT HAMILTON, N. Y.

In a course of addresses on "Abstinence," delivered before the Hunterian Society of London, in 1878, Dr. Benjamin W. Richardson uses these words in referring to the difficulties that surround the use of alcohol in general medical practice: "But prescribe it as a medicine; do not permit its use as a beverage. Prescribe it as alcohol from the dispensary. Learn the exact quantity that is required to produce the desired effect, and then you will discover, and in no other way, whether the good attributed to the grog is due to the alcohol it contains, or to some other agency." This is the scientific, and, as I think, the common sense mode of procedure.

Dr. Richardson prefers the methylic or lighter spirit to the ethylic, and finds that it gives better results than the latter. He suggests that physicians, in many instances, might follow his practice with advantage. The advantages of the methylic alcohol are, in his opinion, its more rapid action and a much less prolonged effect than is the case with common alcohol, so that it produces its effect promptly, and, what is of most importance, it demands the least possible ultimate expenditure of animal force for its elimination from the body.

Dr. Richardson sounded the key note when he advocated the use of alcohol in medical practice in lieu of beer, wine, whiskey, and other liquors containing alcohol. Within the past two years the medical officers of the Inebriates' Home, at Fort Hamilton, N. Y., have recognized the value of Dr. Richardson's suggestions, and adopted them in the treatment of the various forms of alcoholism, when the use of alcohol was indicated, and have found the following benefits to proceed from their adoption:

*First.*—The satisfaction of having a solution containing a definite percentage of alcohol, thus providing an exact system of dosage.

*Second.*—A very marked saving, and, therefore, a method of value from an economical point alone, especially in those institutions where the liquor-bill is a large item of expense.

*Third.*—The moral effect on the patient, in compelling him to at once break off his accustomed stimulant and providing a "medicine" as an efficient substitute.

*Fourth.*—The advantage which the alcohol has over brandy, whiskey, etc., is that, owing to accuracy and concentration of the dosage, the patient convalesces in one-half the time and with less suffering.

In the annual report for 1880 of the Asylum for the Insane, London, Canada, Dr. R. M. Bucke, superintendent says: "No beer, wine, whiskey, or brandy has been used in this asylum during the last twelve months. In place of these, in certain cases of illness where alcohol appeared to be indicated, we have given this in its pure form—mixed, of course, with water, as other medicines are. In this way we have consumed, in the course of the year, four gallons, six pints, and fifteen ounces of alcohol, equal to about nine gallons of whiskey, or one gallon of whiskey to every one hundred patients under treatment, as against (in former years) three hundred dollars' worth of beer, wine, and whiskey to every one hundred patients treated.

Another advantage which this method of prescribing alcohol possesses is the lesson which the

community will receive in a quiet way, that the proper place for alcohol in any of its forms or combinations is the shelf of the pharmacist.

Moreover, in a properly compounded prescription containing alcohol, the physician will have a much greater control of the future physical and moral welfare of his patient, than if he directed him simply to take alcohol as contained in one of the various forms of liquor in common use.

It may be added that Dr. Norman Kerr and other London physicians of eminence have indorsed and adopted the plan of Richardson, and the quotation from the report of the asylum in Canada shows that the method is being adopted in other institutions besides the Inebriates' Home at Fort Hamilton.

We may further note that it is necessary the alcohol should be disguised by the addition of the various carminatives or bitter tonics, and also colored by caramel, so that the patient may not be unnecessarily informed as to what he is taking.

We use what we term our "absolute mixture" in treating patients, as a rule, and without their knowledge as to the fact they are taking alcohol.

We further find that the ninety-five per cent. alcohol is equally as efficient as the absolute, which we formerly used, and which was more expensive.

## Progress of Medical Science.

CLINICAL RESEARCHES ON THE CEPHALIC SOUFFLE OF ADULTS, BY DR. TRIPIER.—"Auscultation of the head," says the author, "has not entered into practice, because of the contradictory results to which its study has led, and by reason of the paucity of useful knowledge until this day derived from it. This remark is particularly applicable to the researches concerning the cephalic souffle, the most important phenomenon furnished by this mode of exploration. I have had occasion to observe this souffle a certain number of times, and it has appeared to me to be worthy of the physician's attention." Dr. Tripier then alludes to the observations of various writers, beginning with those of Fisher, of Boston, who first described the cephalic bruit in 1833. As a result of his own researches, he presents these facts: The cephalic souffle is observed in adults, as has been stated by Fisher and Whitney, and denied by Roger, whose opinion is generally accepted at the present time. I have observed it in a case of anæmia from metrorrhagia, in several chlorotics, in a patient suffering from cachectic anæmia, in a case of intracranial tumor, and in one of hydrocephalus. It is a profound systolic souffle heard all over the cranium, and principally at the sides, at the level of the temples, its maximum intensity being in the right temporal region. It is not modified by changing the position of the head or trunk. Patients who present this phenomenon hear an intermittent bruit synchronous with the souffle perceived on auscultation, and consequently synchronous with the cardiac systole. The intensity of the bruit is proportionate to that of the cephalic souffle. The cephalic souffle may diminish and disappear under a cure or an aggravation of the malady. The cephalic souffle, perfectly synchronous with the cardiac systole, takes place in the arterial system. It is not produced by the transmission of the systolic souffle of the heart, noticed in chlorotic and anæmic patients, nor by the transmission of a souffle produced in the arteries or veins of the neck. By a process of exclusion we locate it in the terminal portion of the internal carotid artery, at the level of the spot where it penetrates into the cranial cavity. Not only are there many arguments in favor of this hypothesis, but in one instance there was located upon the artery in this situation a small tumor, which gave rise to a bruit similar to that perceived in other cases. The souffle may be produced on both sides, or perhaps only on one, preferably the right. In hemorrhagic and cachectic anæmia, as well as in chlorosis, when the anæmic symptoms are intense and of long duration, notably when there exists pronounced discoloration of the tegumentary structures, palpitation and dyspnœa upon the least effort, digestive disturbances, vomiting, and loss of power, the cephalic souffle is met with. In these cases there was a cardiac systolic souffle, which was absent in intracranial lesions. The cephalic souffle without a souffle at the base of the heart, and especially without anæmia, implies a probable compression of the internal carotid, at the level of its terminal portion, when there is no orbital trouble. A distinction must be made between the cephalic souffle heard in the preceding cases and the continuous reinforced souffle produced by a communication of the internal carotid with the cavernous sinus; we must also differentiate between the former and the intermittent souffle to which aneurisms of the carotid and the ophthalmic give rise. The souffle is accompanied by characteristic orbital signs in these cases of aneurism and arterio-venous communication. We have not found the cephalic souffle in any of the cerebral affections mentioned by Fisher and Whitney, except hydrocephalus. We have not met with it in the healthy adult. We have not met with a continuous cephalic souffle in adults. Patients may hear what are probably continuous or intermittent venous bruits; these are not to be confounded with those accompanying the cephalic souffle. The cephalic souffle may furnish indications diagnostically, prognostically, and therapeutically valuable in the diseases in which it is present.—*Rev. de Méd.*, February, 1881.

THE ACTION OF HYOSCYAMINE AND ITS THERAPEUTICAL VALUE IN DISEASES OF THE MIND.—A treatise upon this subject by Drs. Seppilli and Riva concludes with the following *résumé*: Hyoscyamine has an indisputable sedative and hypnotic action, but is nevertheless, not to be preferred to certain other substances of similar virtues, on account of the inconvenience attending its prolonged use. Of all forms of mental diseases, recurrent mania is one in which hyoscyamine is of some advantage. Given in time, when the prodromata begin to appear, it succeeds, if not in averting the attack, at least in mitigating the following ones:

Hyoscyamine sometimes diminishes the intensity of epilectic seizures, and lessens the frequency of their appearance.

Considering the facility of its administration, its hypodermic injection giving rise to no cutaneous trouble, the certainty and promptitude of its action, it is of special advantage in cases where patients refuse to take chloral by the mouth, and in which the administration of this drug per rectum is impossible on account of the condition of the gut or the struggle of the patient. Hyoscyamine is indicated when very excited and clamorous subjects are to be conducted from their residences

to an asylum, and a certain and efficacious remedy is needed to produce calm in the shortest possible space of time, that the transport may be rendered less difficult, supervision less dangerous, and measures of coercion, which only irritate the patient more, unnecessary.

The dose ordinarily adopted by the authors, was 0.005 to 0.01 gramme (gr. $\frac{1}{12}$ to $\frac{1}{6}$) once a day. In several cases of chronic mania and violent dementia, in order to produce calm, they administer, three times a day (8 A.M., 4 P.M., 10 P.M.), from 0.004 to 0.005 gramme (gr. $\frac{1}{15}$ to $\frac{1}{12}$). In two cases of chronic mania, as much as 0.003 gramme (gr. $\frac{1}{2}$), divided into three injections, was given during the day. In beginning the treatment with this remedy, small doses, 0.002 to 0.004 gramme (gr. $\frac{1}{30}$ to $\frac{1}{15}$), were employed in order to ascertain the degree of tolerance.

DELPHINIUM AJACIS.—Dr. Benvenuti has published the results of his researches upon the virtues of delphinium ajacis. A cold acetic acid infusion of the flowers in many cases of phtheiriasis pubis was very efficient in destroying parasites and ova. In several examples of intractable ulcerating bubo, lint soaked with the above infusion brought about speedy cicatrization. An aqueous infusion of the dried flowers brought about similar results in instances of phagedenic ulcers, virulent wounds, and adenites seen in prostitutes. From his experiments, the author draws the following conclusions: The flowers of the delphinium possess an insecticide action. They are to be preferred to other remedies of similar action on account of cheapness and absence of smell; they have a marked anæsthetic action, are excitant, possess a rubefacient action, are astringent, and antizymotic. The author thinks this remedy has many points of resemblance with carbolic acid and iodoform.—*Giorn. Ital. delle mal. Ven. e della Pelle.*, August, 1881.

A FORM OF GONORRHŒAL ARTHRITIS HITHERTO IMPERFECTLY DESCRIBED.—Diverse opinions are held by observers on the subject of gonorrhœal arthritis. According to Ricord, this malady manifests itself as a hydrarthrosis. It is, as a rule, monarticular, and in cases where several joints are involved simultaneously or successively, there is always one, preferably the knee, where the lesions are most pronounced and characteristic. The disease is accompanied by pains, which may be very marked, but are less so than in ordinary acute rheumatism. The affected joint becomes tumefied, and it is easily seen that this tumefaction is not due to any swelling of the osseous extremities, the ligaments, or periarticular soft parts, but to synovial effusion. Besides these ordinary cases, there are some in which other constituent parts of the joint than the synovial membrane are also affected and manifest signs of inflammation. This opinion is identical with that of Rollet. Adding to this what Ricord and Rollet regard as characteristics of gonorrhœal rheumatism—the affection of the same joint in the majority of cases, and the more pronounced slowness of evolution of the local manifestations—it is easy to recognize in their description two of the forms of gonorrhœal rheumatism described by Fournier, the hydrarthrotic and the arthritic. According to Fournier, hydrarthrosis is less frequent than it is generally supposed to be, the arthritic form being the one most often met with. This latter resembles in its articular manifestations common acute or subacute rheumatism. It is clinically characterized by a generally slight swelling of several joints, often so slight as to be hardly apparent, by pain more or less intense at the beginning, but soon moderating, and more markedly so than in common rheumatism, and especially by slightly marked general symptoms, which are in proportion to the articular fluxions. This form is susceptible of varying degrees; in some instances the symptoms may be very mild; in others, and this is a fact ignored by older writers, the disease may assume an intensity equal to that of a veritable arthritis, being accompanied by great swelling, intense heat, extreme pain, and burning fever; *all these, however, moderating at the end of a few days.* These latter cases Fournier regards as exceptional, but the authors, MM. Duplay and Brun, having seen a large number of them, believe themselves justified in asserting that such cases have hitherto been regarded as exceptional, because they were misunderstood, and their symptoms and general course have not appeared to differ in a manner sufficiently marked from ordinary rheumatic arthritis to merit a special description. The observations of Duplay and Brun also confirm the conclusions of Fournier, upon which writers, however, do not sufficiently insist, viz., that gonorrhœal arthritis may, in females, as well as in males, be complicated by rheumatic accidents, not exceptionally, but commonly; that contrary opinions held theretofore were due to the fact that observations had not been conducted in the right direction. The authors do not agree with Fourestié's assertion that the acuteness of the articular lesions corresponds with the acuteness of the gonorrhœa. As to the locality preferably affected by acute gonorrhœal arthritis, facts were not collected in sufficient number to warrant a definite assertion; no articulation, however, is free from liability. Exceptionally arthritis appears suddenly in its most acute form during a condition of general health, unimpaired even by the gonorrhœa; it may succeed a traumatism, and appear to be developed under its influence. More frequently, however, it is preceded by morbid manifestations whose evolution may, so to speak, be regarded as a true period of invasion. These morbid manifestations consist in a feeling of general malaise, loss of appetite, a light febrile movement, and particularly vague, transitory, shifting pains. Among the local symptoms, pain is the first in the order of time; it is very acute, and remains so until proper therapeutic measures are instituted. During the night it may be intense enough to prevent sleep. Besides this form of pain there is another variety, which may be provoked by pressure and motion. Tumefaction soon follows pain, and with it come deformity of the member, modifications in the condition of the periarticular tissues, and changes in the color and temperature of the integument. However pronounced the swelling may be, it is due, in a very great measure, if not altogether, to infiltration of the periarticular structures. In the centre of an œdematous empâtement the finger sometimes appreciates a pseudo-fluctuation, which may give rise to the mistaken idea of a purulent collection.

In patients who have suffered from this form of gonorrhœal arthritis for some time without having had rational treatment, the least movement of the joint gives rise to a rubbing, crackling sound, which leads one to doubt the absolute integrity of the articular cartilages. The rapid disintegration of the principal elements of the joints constitutes one of the characteristics of this variety of arthritis, when it is treated badly or not at all. In this respect the course of the disease contrasts strangely with the

simple phenomena noticed when rational procedures are instituted from the beginning. Treatment consists in absolute immobilization of the entire segment of the limb corresponding to the joint affected; this is to be accomplished, not by means of splints or the simple gutter, but by a solid plaster apparatus. The course of the disease is thus greatly modified. In the large majority of cases the spontaneous pain disappears on the day of application of the apparatus; the œdema rapidly undergoes an appreciable diminution, but the infiltration and the empâtement disappear slowly. In favorable cases, and this class includes a large number of those in which immobilization has been practised from the outset, the joint returns almost immediately to its normal condition after removal of the apparatus. Cases that have been badly treated, or not at all, often end in anchylosis.

In some instances, however, the issue is unfavorable in spite of most careful treatment. It was for this reason that Gosselin applied the name *plastic anchylosing arthritis* to gonorrhœal arthritis.—*Archives Générales de Médecine*, May, 1881.

THE RESOLUTION OF NEOPLASTIC TUMORS.—Dr. Gherardo Ferrari, relating the history of a myxomatous lipoma of the neck operated upon by him, stated that the irritant action of vesicants, tincture of iodine, etc., erroneously prescribed as resolvents in the early stages of neoplastic tumors, served to increase the activity of cellular proliferation and new formation of vessels in such a manner as to cause a more rapid development of the tumor. Even medicine is too much the slave of fashion, and iodine, at present almost regarded as a universal panacea, is employed in innumerable morbid conditions, sometimes doing good, sometimes working absolute mischief. The effects of iodine are very different, according as it is given in large or small doses, or for long or short periods of time. Iodine acts as a solvent, favors metamorphosis, and accelerates the consumption and elimination of those materials which, in normal and pathological tissues, represent a *caput mortuum*. In small doses it increases the secretion of the peptic and intestinal glands; in large doses, however, it favors a decrease of bodily weight, reduces hyperplasia and chronic glandular hypertrophy, and causes atrophy of the mammæ, the ovaries, the testicles, and (according to Cantani) the thyroid gland.—*Lo Sperimentale* and *Racog. Med.*, July, 1881.

NEW DISTINCTION BETWEEN HYDRURIA AND SIMPLE POLYURIA.—In the case of an individual affected for five or six years with polydipsia and exaggerated secretion of urine (with the usual run of concomitant symptoms), Professor Concato makes a new and important distinction between simple polyuria and hydruria. This distinction was suggested by the following data obtained from examination of the patient's urine: Quantity, four and one-half litres; specific gravity, 1009; lemon-colored and transparent; reaction, acid; no sediment; urea, 5.47 per cent.; chlorides, seven per cent.; no albumen; no sugar; pigment matter, sulphates, and phosphates in small quantity. Here the amount of water was increased, the quantity of organic and inorganic materials remaining normal; in polyuria, however, besides an increase in the amount of water, the quantity of organic and inorganic components is also increased. Polyuria represents a more general lesion than hydruria; in the former there is increased filtration through Bowman's capsule and the tubuli contorti; in the latter, increased filtration through Bowman's capsule alone. The treatment was directed toward giving tonicity to the renal vessels by means of the nervous system, and consisted, 1st, in the use of atropine in quantities of 1 to 3 milligr. ($\frac{1}{64}$ to $\frac{1}{20}$ grain) a day, together with valerian (to quench the thirst) and chloral to overcome insomnia, the only result attained; 2d, in an exclusively animal diet with the infusion of cocoa and the tincture of nux vomica (this was unsuccessful); 3d, in the use of electricity, the + pole being placed over the middle of the lumbar portion of the cord, and the — pole on the abdominal wall from the middle line to the right and left kidney respectively. This last procedure was followed by a progressive diminution in the amount of urine, the quantity falling from 3,500 c.c. to 1,300 c.c. Its specific gravity rose to 1021; and the percentage of urea rose to 22.28. Thirst was diminished, the patient drinking only one litre, 700 c.c. of liquor a day; he gained 3 kilogr. in weight. The author concludes that although these prompt and happy effects cannot absolutely be demonstrated as results of the electricity, yet relief followed immediately upon application of the galvanic current.—*Gazz. delle Clin. and Recog. Medico*, July, 1881.

PERMANGANATE OF POTASSIUM IN SERPENTS' BITES.—From a series of experiments made by himself, M. de Lacerda (*La France Médicale*, September 25, 1881) concludes that the permanganate of potassium acts as a true antidote against the poison of serpents. The venom was received upon cotton, dissolved in a small quantity of water, and introduced hypodermically into the cellular tissue of dogs. In one set of cases this injection was followed a minute or two after by one of an equal quantity of a filtered solution of the permanganate (1-100). The next day the animals presented no local lesions; at the utmost there was a slight tumefaction at the point of puncture, but no infiltration or irritation. In another set no permanganate was employed. In these instances the injection of the venom was always followed by great local tumefactions, abscesses of larger or smaller size, loss of substance, and destruction of tissue. The permanganate injected into the veins also acts as an antidote in cases of serpents' venom introduced into the venous system. Injected half a minute after the introduction of the poison, the permanganate prevented the development of toxic symptoms; injected when such symptoms were already manifested, it caused them to disappear. In those instances where no antidote was used the animals died.

PARACENTESIS OF THE PERICARDIUM.—According to Severi, paracentesis of the pericardium is indicated in simple or rheumatic effusions, seven out of ten operations resulting favorably. When the life of a patient is endangered by the presence of fluid, this operation should be performed, although the pericarditis may be tubercular, associated with chronic pulmonary affections, or with some bloody effusion. Operative interference is emphatically indicated when there is pus in the sac. Pericardial paracentesis is a measure of some gravity, but many of the accidents formerly experienced by physicians are now avoided through the introduction of improved instruments and better methods of operating. Though a palliative measure, which may have to be performed several times, it leads, in some instances, to a radical cure.—*Lo Sperimentale*, April, 1881.

TREATMENT OF ACUTE ARTICULAR RHEUMATISM.—Dr. Carpani divides the methods of treating this affection into four groups: 1st, with salicylate of soda; 2d, with quinine; 3d, with benzoic acid; 4th, with the application of vesicants *loco dolenti*. He lays down the following maxims: 1, the salicylate is of value in case of acute febrile polyarthritis with marked articular manifestations, unless it be contra-indicated by concomitant cardiac affections, nervous, gastro-intestinal, or renal troubles; 2, the bisulphate of quinine is to be employed when rheumatism is associated with or dependent upon malarial poisoning; 3, benzoic acid is efficacious in cases of acute febrile articular rheumatism, complicated by nephritis; 4, vesicants (Dechilli's and Davies' method) are certain to cure rheumatism affecting one or only a few joints.—*Annali Universali* and *Racog. Med.*, July, 1881.

INTERMISSIONS OF THE PULSE, SYNCOPE, AND SUDDEN DEATH IN TYPHOID FEVER.—In a treatise on the above subject, reprinted from the *Union Méd. et Scien. du Nord-Est*, Dr. Langlet draws the following conclusions:

In typhoid fever, during the period extending from the first week of convalescence to the middle of this stage, intermissions of the pulse are frequently observed. These do not appear to be in constant ratio with the intensity of the muscular lesions of the heart, and may be considered as accidents of cardiac innervation and of encephalic origin. They often lead to more or less grave syncopal attacks, from which the patient may entirely recover. These attacks of syncope, provoked by sudden movements or violent emotion, if prolonged, may prove fatal.

Intermissions of the pulse, without being the only factor in cases of sudden death in typhoid fever, seem to play a great rôle, and demand the attention of the practitioner, that he may be upon his guard to ward off grave accidents.

PULMONARY PHTHISIS AND MENSTRUATION.—Daremberg believes that the menstrual function has considerable influence over pulmonary phthisis. According to him, menstruation is now and then the cause of phthisis—that is to say, in women who become consumptive upon cessation of the menstrual flow. When pulmonary changes exist, the menstrual function may induce congestions either around the focus of the lesion, or in a healthy part of the lung; there may be hemorrhage or inflammation. When the catamenial discharges are suppressed while ovarian excitement remains, these congestions may become very intense and grave. If the flow persists after the cessation of ovulation, anæmia instead of reflex congestions results. When both the ovarian and the uterine functions have ceased, reflex and pulmonary congestions are not to be feared. After parturition, similar congestions of the lung are to be apprehended. Sudden suppression of the menses does not *per se* give rise to tuberculosis, but may contribute to its development in women predisposed to this disease. The lungs of phthisical women should be carefully examined at each menstrual epoch, and any nervous or vital excitation should be combated by the moderate exhibition of digitalis, bromide of potassium, and quinine, by absolute rest, and by the use of revulsives (vesicants, croton-oil, inunctions, etc.). If the menstrual flow ceases, though the ovarian function continues, the same therapeutical measures are indicated, besides friction, cold baths, etc., and if this do not suffice, in addition, purgatives, emmenagogues, excitants, such as alcohol and ammonium acetate; stimulants like rue, savine, aloes, uva ursi, apiol, and ergotine, borax, and tonics such as strychnia and quinine. By this treatment the menstrual flow is made to appear again in the greater number of cases. When the uterine function continues after cessation of that of the ovaries, the flow should be lessened gradually, as a sudden considerable diminution would be productive of evil. When both functions have ceased, it is worse than useless to attempt to again bring on the menses. When, after a long absence, the menstrual discharge again appears, without a great local or general improvement, caution is necessary in framing a favorable prognosis, because such an apparent return of the menses often indicates grave disturbances of the circulation, and is the forerunner of serious phenomena.—*Lo Sperimentale*, April, 1881.

DIABETES AND AFFECTIONS OF THE PANCREAS.—In 1877, Lancereaux found that certain forms of diabetes mellitus were associated with lesions of the pancreas. In these cases the malady began suddenly, ran a rapid course, with marked emaciation, polydipsia, polyphagia, and peculiar alvine dejections. Depierre found that various pancreatic lesions may be regarded as causes of this form of glycosuria. These lesions may be primary, or they may be secondary to the presence of calculi, or to the obstruction of the ducts by neoplasms. In these cases there seems to be a complete abrogation of the pancreatic function, and this abolition is indicated by a train of especial symptoms, constituting emaciating diabetes, a form very different from that of ordinary polyuria in its clinical aspect. In the latter there is an initial stage of apparent health which renders the progress of the disease slow and insidious; in pancreatic diabetes, however, in the midst of a general ill-health, the first symptoms appear, consisting, usually, in grave intestinal manifestations, vertigo, vomiting, and icterus. These symptoms soon disappear, but leave the patient in a state of extreme debility, and are soon followed by the true symptoms of the disease, which latter may also arise without being preceded by those mentioned. These phenomena are polydipsia, polyphagia, polyuria, and antophagism; they reach their climax in a few weeks or months, and are very characteristic of this form of glycosuria. Generally there is diarrhœa, and the urine contains a large amount of sugar. A frequent complication of this disease is pulmonary phthisis, together with an emaciation of such extreme rapidity that in a few months the patient loses successively his physical, intellectual, and virile powers. To this complete prostration and marasmus are added a hectic fever and symptoms of consumption. The disease generally runs its course in half a year, but it may extend over a year and a half to three years. The fatty, creamy fæces are met with in this malady, but it is to be remembered that they are also to be found in other pathological conditions of the organ. A point of diagnostic value, is the deficient digestion of nitrogenized substances, in cases of atrophy of the pancreas; shreds of undigested muscular tissue are found in the fæces of the patient. Besides the ordinary remedies for diabetes mellitis, pancreatine should be administered in these cases, in order to supply the deficiency of pancreatic juice, and thus aid digestion.—*Lo Sperimentale*, April, 1881.

# THE MEDICAL RECORD:

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GEORGE F. SHRADY, A.M., M.D., Editor.

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## OUR RELATIONS WITH THE PUBLIC.

THE relations which the profession have sustained to the public, particularly during the last few months, in connection with the case of the late lamented President, have tended to settle in a practical manner some vexed questions in ethics. It is not going too far to assume in a general way that, in view of the experiences referred to, medical men have become more liberal on some points bearing upon their obligations to the public, and more absolute on others. While the position of the physician as an educated citizen is now more clearly understood than formerly, the lines are still more sharply drawn between the use of his privileges and the abuse of his professional prerogative. In other words, we are beginning to understand our proper attitude toward the public, and are preparing to act accordingly. Great crises, in which important medical questions are involved, create a demand on the part of the people for the expression of authoritative opinions. This fact has been strikingly manifested lately. The situation was forced upon the profession, and its responsibilities could not be ignored. Professional opinion concerning certain points in this remarkable case were eagerly solicited by the leading papers and were widely published over the country. While much was said that might better have remained unsaid, the testimony in the main was far from discreditable to scientific medicine. Notwithstanding the senseless adverse criticisms that obtained so much notoriety, and notwithstanding the widely advertised mistake in diagnosis, it is quite patent that surgery was able to explain in a very satisfactory manner the whys and wherefores of the results obtained. A more or less public discussion of the different professional aspects of the various questions involved was inevitable. What to say and what not to say became a question of wise discretion and good taste. Quite naturally there was room for a good deal of dodging around the border-line between self-advertisement and a dignified expression of accepted professional opinions.

The medical public, with a full understanding of its responsibilities, was in a proper position to make the distinction between speaking for the person in particular and for science in general. And now, when discussion is apparently at an end—at least in the secular press—it is comforting to think that the majority of those who published their opinions in the daily papers were so consistent as to the dignity of their calling, and so reserved regarding direct criticism of the management of another's patient. But the principle involved in this case has now a precedent for applicatio nin similar ones. Indeed, this ultimatum is tacitly accepted by the Committee on Ethics of the Medical Society of the County of New York, which, with becoming liberality, pointedly declares the proper relations between medical men and the public. It is clearly understood that it is not only the privilege, but the duty of a medical man to speak for his profession; to uphold its dignity to the public; to educate the people to the point of understanding why its science should be respected, and why its members should lead general opinion on all subjects pertaining to health and disease. On the other hand, it is declared with equal explicitness that nothing tends to lower the usefulness and influence of the profession more than the blatant twaddle of such as swallow their craft into their own personality, and use their opportunities only in the direction of individual advancement.

If medical men are prepared with such an understanding to act toward the public, we are convinced that nothing but good can result. There is no surer way, for instance, in checking quackery—professional and unprofessional—than in educating the public to the point of appreciating its absurdity. The better idea that the public can obtain regarding the science of medicine as a whole, the better will it be prepared to patronize educated medical men. The science of medicine may have a general application as regards the needs of the public at large, but the direct adaptation of its principles to the necessities of the sick individual must always be left solely with the properly qualified medical man. While no man can raise himself at the expense of the reputation of his craft, every individual is benefited when, by common consent, the honor and dignity of his brotherhood is consistently upheld. We can always do the latter properly, and at the same time rightly discharge our obligations to the public.

### GUITEAU'S DEFENCE.

THE points of interest in the trial of Guiteau since our last writing are the testimony of the prisoner and of the medical experts. The placing of such a prisoner on the witness stand in order to prove his

own insanity is a somewhat remarkable event in criminal history. The testimony which he gives is equally noteworthy. Guiteau displayed a wonderful acuteness in appreciating the legal bearing of the questions put to him, and in evading answers that would at all criminate him. He clung to his theory of Divine inspiration with a tenacity which might raise the suspicion that he appreciated its legal value.

Upon the general public the prisoner's quickness of mind and extreme adroitness probably made the most impression. Though mercilessly cross-examined, no inconsistency or incoherence was brought out. To the medical mind the fact that some confession of remorse and regret was made, as well as the undoubted mental suffering of the witness during the cross-examination, will perhaps have the most weight.

The expert testimony for the defence has just closed as we write. A number of medical gentlemen of high standing testified that if the statements made in the hypothetical question put by Mr. Scoville were true, the prisoner was insane. Several of the experts answered this hypothetical question under a kind of protest, in doing which they were quite justified. This question assumes, as established by the evidence, that Guiteau has a strong hereditary taint of insanity; that he was actually insane five years ago; that since then many persons had thought, from his conduct, that he was insane; that, last June, he became "demented with the idea that he was inspired by God" to kill the President; that after the act he became calm, as if he had performed a great duty; and that there was no other adequate motive for the deed than the conviction that he was executing the Divine will.

This question means simply: If he became insane five years ago, and was acting under an insane delusion when he shot the President, was he insane at the time when he committed the murder?

One may query, however, regarding the "strong hereditary taint," the insanity of five years ago, and the entire sufficiency of the inspiration as a motive. The prisoner's viciousness and vanity cannot be ignored in judging his motives.

The expert testimony for the defence seems on the whole to be rather unsatisfactory. The statement of one expert that he believed one out of every five persons was insane, quite destroyed the effect of his testimony, and did not help the popular repute in which medical experts are, often unjustly, held.

It may be remarked that the criticisms in the daily papers have, as a rule, shown a great incapacity to grasp the questions involved. What the jury should know is, first, whether Guiteau's act was the offspring of a diseased brain, or of a vicious nature, or whether it came from a mingling of both; and, second, whether in any case he should be punished.

### HYDRANGEA IN RENAL CALCULI.

THE article by Dr. Edson, seemingly confirmatory of the good effects of hydrangea in renal calculus, deserves some attention by practitioners who are looking about for the means of preventing attacks of renal calculi. Two years ago Dr. E. B. Freeman, of Barton, Ala., described in glowing terms (*vide* MEDICAL RECORD, vol. xvii., p. 471) the virtues of hydrangea as a solvent in renal calculi. For a long time a sufferer from the latter affection, he was finally completely relieved by this drug. A second case in which the same remedy was employed proved equally successful. Dr. Edson now adds his experience in the same direction, and in a manner calculated to draw renewed attention to the subject. Although it must be admitted that the statements of these gentlemen may appear a trifling too positive, it is well to remember that the drug has not been hitherto without a reputation as a remedy in this apparently intractable affection. It was first employed for the purpose named, and with good results, forty or fifty years ago, by Dr. E. Butler, while a missionary among the Cherokee Indians, and it has since been recommended by different physicians at various times, among others by Drs. W. L. Atlee, Horsley, and John C. S. Monleur. It would now appear probable that a more extended trial of its supposed virtue is to be made.

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### REGULATING THE PRACTICE OF MEDICINE.

QUITE recently we took occasion to refer to the inadequacy of the present law for regulating the practice of medicine in this State. At the recent meeting of the Medical Society of the County of New York the subject was quite pointedly discussed in the addresses of the retiring and incoming presidents of that body. As will be seen by a reference to our report, published in the present issue, the difficulties in the way of the enforcement of the law are many and significant. As has been truly said, there has been from time immemorial a tendency for quackery, even in its most pronounced forms, to flourish, despite apparently stringent enactments to the contrary. While we should not despair in our efforts to reform the present condition of public opinion, it is quite evident that many difficulties are yet to be encountered before desirable results can be realized. We are, for instance, met with the apparent impossibility of reconciling the principle of liberty of the subject by any enactment which can be construed as having a contrary tendency. In reference to any law aiming to create qualified practitioners, the special plea on behalf of legislators is to the effect that thereby the right to choose his own physician by any citizen is directly interfered with. Then again comes the present hinderance in the way of fixing upon any universal and satisfactory standard of qualification for medi-

cal practitioners. When to these militating influences are added the interested opposition of all varieties of quacks who would be injured by such a law, and the well-known apathy of the grand jury, as shown by its action in cases recently before it, and, finally, by the want of interest in the subject manifested by the public at large, and even by members of the profession, the prospects are not very promising. Still it is well to appreciate the obstacles to be encountered, and to overcome them in an intelligent, liberal, and determined manner. That no law has yet been enacted to suppress quackery is no reason why we should be discouraged, but rather proves what yet remains to be done before the triumph over quackery can be complete. One of the principal means to the desired end is the proper education of the public upon the subject. This process is a gradual one, it is true, but the surest in the end. It is gratifying to learn that the County Society is not yet disheartened, and that there is still a laudable determination on its part to continue the good fight against charlatanism in all its various forms. There is every reason to believe that the work is properly begun, and that the reformers are making substantial progress.

## Reviews and Notices of Books.

ARTIFICIAL ANÆSTHESIA AND ANÆSTHETICS. By HENRY M. LYMAN, A.M., M.D. New York: William Wood & Co., 1881. Wood's Library of Standard Medical Authors.

A PERUSAL of Prof. Lyman's work leaves us considerably impressed with the industry and knowledge of the author, as well as with the usefulness of his treatise. He has discussed his subject very thoroughly, and has touched upon every point connected therewith. The history, phenomena, and physiology of anæsthesia are first given; then follows a description of the methods of producing anæsthesia, with the various instruments used for the same. Accidents of anæsthesia and their treatment, anæsthesia in obstetrics, and in dentistry, the mortality of anæsthesia, and the medico-legal relations of the same are also taken up. A description is given of forty-eight different anæsthetics, or anæsthetic methods, a list which includes everything, we believe, except the mesmeric sleep.

The author writes in a clear, elegant, and forcible style. His physiological explanations are especially good, and everywhere an excellent judgment is shown in commenting upon debated points as to the use or action of anæsthetics. The book is, of course, very largely a compilation, but the work is excellently done, and it makes, perhaps, the best, most complete, and practical treatise on anæsthetics that we have.

MANUAL FOR THE PHYSIOLOGICAL LABORATORY. By VINCENT HARRIS, M.D. (Lond.), and D'ARCY POWER, B.A. (Oxon.). New York: William Wood & Co.

THIS work is essentially an epitome of histology and of physiological chemistry. It contains also brief directions for the preparation of tissues for microscopic examination. The facts are given in a very concise and clear manner. Altogether, the book ought to prove a very helpful one to the student.

A TREATISE ON COMPARATIVE EMBRYOLOGY. By FRANCIS M. BALFOUR, LL.D., F.R.S. In two volumes. Vol. ii. London: Macmillan & Co. 1881. 8vo, pp. 655.

THE present book completes Dr. Balfour's treatise on comparative embryology. Like the preceding volume, it represents an immense amount of patient research, as well as a wide range of scientific and bibliographical knowledge. It would be impossible to make any critical review of its contents. The embryology of the vertebrates is treated of in this concluding volume, and it contains chapters, therefore, which come more nearly within the knowledge of medical readers. The first part treats of the developmental history of the chordata. Three chapters are then devoted to a comparison of the formation of the germinal layers and of the early stages in the development of vertebrates. The remainder of the work is devoted to a history of the development of the different organs of the body. Considerable space is given to human embryology. The work is beautifully and copiously illustrated. There is also a very complete bibliography. We cannot praise too highly the efforts of the author, which have resulted in making so exhaustive and valuable a contribution to natural science. It easily takes the first rank among treatises upon embryology in any language.

DIE AMPUTATION DER GLIEDMASSEN DURCH ZIRKELSCHNITT MIT VORDEREM HAUTLAPPEN. Von VICTOR v. BRUNS. Tübingen: Verlagder H. Laupp'schen Buchhandlung. (Amputation of Limbs by the Method of Circular Incision with Anterior Flap. By VICTOR v. BRUNS. Tübingen: H. Laupp's Publishing House. 1880.)

RECOGNIZING the importance of a thorough knowledge of the various steps by the observance and execution of which success is secured in amputations by the method of the circular incision with an anterior flap, Dr. v. Bruns has written a treatise upon the *modus operandi* adapted to the wants of the practical physician. A very extended experience in amputations allows him to speak with some authority.

The method of circular incision with anterior flap was introduced by the author in 1844. The following advantages over methods by uni- or bi-lateral incisions are claimed for it: it allows of a more rapid healing; healing takes place with the formation of a better stump, inasmuch as the end of the bone is not covered by cicatricial tissues, but by normal skin, and the cicatrix is situated at a distance from the osseous extremity at the periphery of the stump on its posterior aspect.

The book contains the following chapters: An Historical Introduction; General Considerations of the Various Steps in Amputation by the Method of the Circular Incision with an Anterior Flap; Instrumental and Bandaging Apparatus, Technical Execution of the Operation of Amputation by the Method of Circular Incision with Anterior Flap; Treatment Subsequent to Amputation; Concluding Remarks.

The language is clear and concise. We take pleasure in recommending the book to the profession.

STUDIEN ÜBER KÜNSTLICHE GLIEDER. Im auftrage des Königlich Preussischen Kriegs-Ministeriums bearbeitet von DR. O. KARPINSKI, Oberstalsartzt, etc. Hierzu ein Atlas. [Berlin: E. S. Mittler und Sohn. 1881. (Studies in Regard to Artificial Limbs. By DR. O. KARPINSKI, Chief Staff Physician, etc., in Accordance with an Order of the Royal Prussian Ministry of War. With an Atlas.)

IN 1878 Dr. Karpinski was commissioned by the Prussian Ministry of War to report his experience and observations in regard to artificial limbs, their modifications as necessitated by the shape of the stump, the merits and demerits of artificial members manufactured by the various firms, etc. He has made an exceedingly thorough and careful study of the subject in hand, and has contributed a work of very great practical interest to the medical profession and the mechanician. A beautifully executed atlas, containing illustrations of the different kinds of artificial limbs used from the fifteenth century down to the present day, accompanies the text.

In regard to the construction of artificial limbs in America, the author says that, although shortly after the war of the Rebellion, we excelled all other nations in this respect, and further, that, though our productions were numbered among the best at the Paris Exposition of 1869, it is questionable whether we surpass our European competitors at the present time.

# Reports of Societies.

## NEW YORK PATHOLOGICAL SOCIETY.

*Stated Meeting, November* 9, 1881.

DR. GEORGE F. SHRADY, PRESIDENT PRO TEM.

### CHRONIC INFLAMMATION OF THE BLADDER ASSOCIATED WITH CYSTIC DEGENERATION OF THE KIDNEYS.

DR. B. A. WATSON presented a specimen with the following history: J. H. W——, born in Massachusetts, forty-seven years of age, and a cracker-pedler, was first attacked with cystitis about thirteen years ago, and had since suffered periodically with fits of gravel, while his urine had been constantly ammoniacal, loaded with pus and a substance which the deceased designated as "white sand." Six or seven years ago the urethra was completely obstructed by a stone, which was so large that it could only be removed in fragments, and since that time he had always been compelled to void his urine at least once every hour. Last May this patient came under the professional care of Dr. F., who referred him to Dr. T. The latter examined for stone in the bladder, with a negative result, but the introduction of the sound was followed by a protracted hemorrhage, and in connection with it there was a profuse discharge of that which has been previously mentioned as "white sand." The diagnosis made at that time was "chronic cystitis with hypertrophy of the walls of the bladder." Cystotomy was recommended, but not performed, and the patient was treated with atropia and dog-grass. No additional information from that date until the 6th of last October was obtained, when the patient, who was suffering from retention of urine, again applied to Dr. F., who requested Dr. H. to pass an English No. 8 catheter. The following day the latter made a careful examination of the patient's urethra and bladder, and found in the bulbous portion of the former a slight stricture, which he dilated in two sittings so as to be able to pass an English No. 13 sound; and he also discovered that the latter organ was greatly contracted. Twenty-four hours after that examination a hemorrhage began, which lasted thirty-six hours. The cessation of this bleeding was followed by a slight, though brief improvement in the symptoms, but during the night of October 11th he was slightly delirious, and on the following day the attending physician diagnosed diphtheria. The patient, probably somewhat influenced by the grave character of the prognosis, and apparently unwilling to await the slow progress of disease, sought a favorable opportunity, and terminated his existence by sending a pistol-ball through his brain on October 12th.

*Post-mortem appearances.*—The physician making the autopsy failed to note the external appearances of the body beyond the pistol-wound in the temple, which, he says, caused death. In fact, the report was entirely limited to the pathological specimen presented to the society, and Dr. Watson, therefore, concluded that there was nothing else observed worthy of study. The fact was mentioned that the right kidney was larger than the left—the former weighed, before it was opened and the fluids thus permitted to escape, fifteen ounces, while the latter weighed only eleven—and that the cysts in both contained "a milky fluid," which, as was added, resembled "a broken-down cheesy deposit."

*Remarks.*—"It will undoubtedly be admitted that the bladder in this specimen furnishes a good representation of the local effects of chronic cystitis. The mucous membrane, prior to its being placed in alcohol, possessed the characteristic brown color, and the marked hypertrophy of the walls of this organ may still be examined. The right ureter is much more capacious than the left, and in this respect corresponds with the kidneys, where the chief interest of the specimen probably centres. The cystic degeneration has already been mentioned, but it will be observed that there is also in these organs an abnormal quantity and distribution of fat. Is this fatty condition a part of the cystic degeneration, or have we in these organs both fatty and cystic diseases? The etiology of the kidney disease and its relation to the chronic cystitis may also be worthy of some consideration in connection with this specimen. The history of the case renders it quite certain that cystitis was the primary lesion."

### NECROSIS OF THE CLAVICLE RESULTING FROM INJURY—SUB-PERIOSTEAL REMOVAL OF A PORTION OF THE BONE IN ITS ENTIRE LENGTH—RECOVERY, WITH A USEFUL ARM AND A REPRODUCTION OF THE WHOLE CLAVICLE.

DR. JOHN A. WYETH presented a patient with portions of necrosed bone, with the following history: Edward M. Conley, sixteen years of age; no family history. February 21, 1881, had his left clavicle dislocated at the sternal end, and broken at the junction of the outer and middle third, by a lad who caught him by both shoulders from behind and violently pulled his shoulders backward. Two days later a surgeon attempted to reduce the dislocation, and a "Sayre dressing" for fractured clavicle was applied. On February 28th, seven days after the accident and five after he was thus treated, he came under Dr. Wyeth's observation. After the dressing had been removed, he found a tumor as large as a lemon at the sterno-clavicular articulation, which he

immediately opened; it discharged about two ounces of pus. Within the next few weeks two or three other sinuses opened in the course of the clavicle, giving evidence of extensive necrosis. On May 7th he removed all of the diseased bone. The incision extended from the *sternum* along the bone to the acromion process. The periosteum was laid back to either side of the incision, and about twenty pieces (the largest about two inches in length) were removed. Three-fourths of an inch of the sternal end was removed entire. When the bone showed evidence of life, that is, when it looked red and sound, he chiselled off the necrosed tissue to this line of living bone, and it was left. Upon this osseous and periosteal nucleus a new and useful clavicle had been produced. On July 7th the lad was put at work as a telegraph messenger.

DR. BRIDDON asked if the health of the patient, previous to the accident, was good. He thought that it was an unusual result to follow an injury of that character.

DR. WYETH replied that, so far as he had been able to ascertain, the previous health of the patient was good, although he had not been an extremely rugged boy.

DR. RIPLEY remarked that the injury itself was unusual, and he thought there was some vice in the system to explain its gravity.

DR. BRIDDON said that twenty years ago he reported a case in which acute necrosis took place with diaphysis of the clavicle. The entire clavicle was removed, but it was reproduced entirely, and the result was so perfect that the injured could not be distinguished from the sound bone.

DR. GERSTER asked if there was any external wound at the time of the injury.

DR. WYETH replied that the injury was subcutaneous throughout.

DR. GERSTER remarked that the results were admirable, and he then drew attention to one point, which seemed to be of some interest, namely, the pathology of these cases. He had seen only two cases in which the cause was similar to that operating in Dr. Wyeth's case. Some younger person sustains a fracture of the clavicle entirely subcutaneous, and suppuration takes place about the fractured point. He inquired whether any of the members had seen such cases. Dr. Wyeth's was the third which he had seen, and he could not explain why subcutaneous fracture should go on to suppuration.

DR. WYETH suggested an explanation, namely, that there was displacement of the bone, removing it considerably from its original position and necessarily severing all arterial communication. Probably the nutrient artery was severed at the time the fracture was produced, and those facts perhaps might account for the general necrosis which occurred.

DR. BRIDDON doubted whether the suggestion made by Dr. Wyeth concerning division of the nutrient artery of the bone would account for the condition which followed, because fractures at that point were met with over and over again, and yet necrosis did not occur. He thought there was some constitutional vice in this case which explained its subsequent history.

DR. WYETH admitted the influence of a constitutional vice, but he thought it possible that the necrosis might in part be explained by the disturbance in the circulation. He remarked that bones were exceedingly vital, as proved by experiments made by Macewen, of Glasgow, who removed in one case nine inches of the humerus in a child, and took chips of bones half an inch in length or more from an amputated limb and placed them in the opening, and they united and new bone was produced throughout. That would seem to prove that bone possessed a greater vitality than it had heretofore been credited with. Certainly, simply slipping the bone and dividing the nutrient artery would not explain the necrosis without some constitutional condition.

DR. BRIDDON remarked that Dr. Macewen's experiments also proved that the nutrient artery was not essential to the life of bone.

DR. PUTNAM-JACOBI thought that the nutrient artery was of little importance in sustaining the life of the bone, as compared with the blood-vessels which come from the periosteum.

DR. WYETH remarked that both sets of vessels had been considered as essential to the life of bone. He also referred to experiments performed by a German surgeon, who cut out chips of bone without reference to shape, and placed them in openings in other bones without reference to the position of the periosteum, and serviceable bones were the result.

### RUPTURE OF THE JEJUNUM.

DR. W. M. CARPENTER presented a specimen which was interesting, especially with reference to one or two points in its clinical history. It was removed from the body of a man forty years of age, a hod-carrier, who fell from the third story of a building. He was removed in an ambulance to Bellevue Hospital, and the following items in the clinical history of the case had been furnished by the house surgeon, Dr. Hartley. On examination there was found double Colles' fracture; also an incised wound extending downward from near the angle of the mouth on the right side, over the lower jaw, to the extent of two inches. There was evidence of contusion over the right ilium and over the lower portion of the right side of the thorax. On admission, the patient complained of pain, which he referred to the right side of the abdomen and the lumbar region. He was in a condition of shock, although it was not profound. There was pallor, but not marked; there was coolness of the surface of the body and extremities. His pulse was 120 and feeble, and he had vomited once. He was also restless, and his countenance was somewhat anxious. Fomentations were applied over the abdomen, and a hypodermic injection of morphine was administered. The symptoms of shock all disappeared, so that a few hours after admission the patient's pulse was 90 and full; his skin was warm and moist, and his general condition was very good. The only thing of which he complained was the pain referred to the right side of the abdomen. About twenty minutes before his death he was seen by the house surgeon, and this condition of general comfort still existed. The orderly suddenly noticed that there was a change in the general appearance of the patient, went to the bedside, found that his extremities and the surface of his body was cold; immediately called the house surgeon, who quickly arrived, but found that the patient was dead. At no time were there any head symptoms.

At the autopsy there was found double Colles' fracture and the incised wound already described. There was evidence of contusion over the lower portion of the right side of the chest and over the right ilium. On opening the abdomen gas escaped freely, and the cavity contained several ounces of bloody

serum, with some fecal matter. The liver, the spleen, and the kidneys were apparently normal. The lumbar muscles were contused, and contained extravasations of blood. In the jejunum there was found a rupture, which extended about half-way around the gut. Plastic exudation was found upon the convex surface of this portion of the intestine, extending along its convex surface to a distance of fifteen or eighteen inches. The thoracic organs were normal. The brain was not examined. The chief points of interest in the clinical history of the case were the difficulty in diagnosis and the almost complete restoration from the shock. The house staff were unable to reach a positive diagnosis as to whether there had occurred laceration of the liver, laceration of the spleen, or whether there was internal hemorrhage, or whether there had been rupture of the intestine. The patient died eight hours after admission.

Dr. Briddon remarked that the specimen possessed special interest in connection with the subject [peritoneal surgery] which had recently been under discussion, and illustrated the difficulty in making a positive diagnosis in cases of abdominal injury. In the present case there was nothing by which a positive diagnosis could be made, and certainly there was nothing sufficiently positive to warrant any surgical interference with the abdominal cavity.

Dr. Putnam-Jacobi suggested that the restoration from shock could be explained on the supposition that there was only partial rupture of the intestine at the time of the accident, and that at the time of or just before death the rupture became complete, and gave rise to the secondary shock.

Dr. Geo. F. Shrady suggested that there might have been complete rupture with moderate escape of intestinal contents, then a temporary arrest of the escape followed by temporary reaction, and finally another escape of intestinal contents, which was the immediate cause of the shock and death.

Dr. Wyeth referred to two cases, met with by Dr. Janeway, in which sudden death was produced by fracture of the odontoid process, and suggested the possibility that in the present case the sudden death might have been caused by such an accident which had passed unrecognized.

### SUDDEN DEATH WITHOUT ASSIGNABLE CAUSE.

Dr. Van Gieson presented a brain with the following history: "The patient from whom this specimen was taken was first seen by me in June, 1878. He was at that time a well-nourished man of about forty-six years of age, the eldest of three children of healthy parents, well advanced in life, and free from hereditary taint of any kind.

"In the summer of 1875, three years before I saw him, he suffered from what was called a heat-stroke. He was suddenly seized, on a very warm day, with giddiness, headache, and strabismus. After about a week he recovered from this and resumed his business, that of a clerk. Close application to work brought on severe headaches for a long time afterward. The strabismus disappeared a day or two after the attack of heat-stroke.

"From that time until the early part of 1878 he was comparatively well; but he was then seized with intense supra-orbital headache, very severe and prolonged; he nevertheless kept at his desk until February 22d, when he noticed that he was unable to open his right eye, and that the eye itself was very much turned from its axis toward the right; not long afterward the left eye gradually became similarly affected. In June of 1878 the left eyelid was almost entirely paralyzed. During this latter period his memory for recent events was much impaired, but the intellect and judgment were clear. The appetite was good and the bowels regular. At times the pain seemed periodical, but the element of periodicity was not noticeable during the latter part of the disease.

"I first saw the patient on June 13th, in consultation with Dr. E. G. Janeway and Dr. O'Brien. He was then free from pain; answered questions readily and intelligently; the muscular grasp was of fair force and equal; movements of limbs co-ordinate; no evidence of paralysis, except in the parts already described. Ophthalmoscopic examination revealed no lesions of fundus; both eyelids show nearly complete ptosis, most marked in the right; both globes strongly diverged.

"Searching questions reveal probable syphilis, apparently arrested by treatment some eighteen or twenty years ago. No nodes or thickening of scalp can be discovered. The disease is diagnosed as third paralysis, from the remote effects of venereal disorder. The lungs and heart were carefully examined, with negative results. Repeated examinations of the thoracic organs, made during the further progress of his disease, revealed no appreciable lesion. Frequent examinations of the urine showed no trace of anything but slight deposits of urates from occasional overloading of the stomach and consequent temporary gastric derangement.

"It was agreed to treat him with large doses of iodide of potassium, increasing daily until the point of intolerance was reached. The initial dose was two scruples, in divided doses, daily.

"On July 29th the daily dose was six and one-half drachms; he continued with this until August 10th. There is as yet no visible improvement. The patient has diarrhœa, sore throat, reddened fauces, and burning pains in the stomach.

"The dose was now reduced to three drachms daily.

"August 15th.—The foregoing symptoms still persisting, the iodide was withdrawn entirely and tonic doses of strychnine, quinine, and iron, given.

"September 5th.—General health improved; local condition about the same; appetite and sleep good.

"September 15th.—Resumed the kali iod., alternating with $\frac{1}{24}$-grain doses of hydrarg. bichloride.

"December 2d.—Withdrew the bichloride, and gave ½ to ⅔ of the proto iodide in its stead.

"April 1, 1880.—The patient has been seen at intervals, and the mercurials and iodides kept up; the ptosis of the left eye is disappearing as well as the divergence; the right eye is better, but in a less degree.

"February, 1881.—Has been seen at intervals of four to six weeks. There is gradual improvement in the right eye—the pupil can be brought nearly to the normal centre of vision; treatment suspended for a few days, and tonics given in the interval.

"March, 1881.—Ptosis of right eye, not marked except when patient is much fatigued. Right eye can be brought fully up to the normal axis *when the left eye is closed*, but when both eyes are open, the right still diverges a little.

"April 5, 1881.—Called suddenly to find the patient suffering from severe pains in right shoulder and elbow. There is no redness or swelling; the pulse and temperature are normal. The tongue shows superficial erosion and slight indentation.

"April 8, 1881.—The arm from the shoulder to elbow is intensely ecchymosed, much resembling the appearance of the parts some hours after a fracture of the humerus; there is slight swelling; the pain has disappeared. This condition of things is diagnosed as being caused by self-inflicted violence during a night-convulsion.

"May 20, 1881.—The right arm shows the same condition of things in a less degree; the tongue shows no marks of having been bitten.

"June, 1881.—Slight lingual paralysis—unable to talk for several minutes; eyeballs protruding and staring expression of the face; difficulty in swallowing; partial loss of consciousness; the whole attack estimated roughly as lasting some ten minutes. He had entirely recovered when I saw him about a half-hour from the beginning of the attack, and could give no intelligible account of it.

"September 11, 1881.—3 A.M.; a similar attack, lasting but a few minutes; the tongue is bitten on one side.

"September 24th.—Another and severer attack, accompanied with slight convulsive movements.

"October 16th.—A violent, long-continued convulsion, beginning at 9 P.M.; at the beginning the eyes were fixed for an instant, then the hands and feet were drawn rapidly backward and forward, and the muscles of the trunk were in a state of tonic spasm; attending the movements were loud shrieks and groans; there was no frothing at the mouth, and but slight mucous râles in breathing; as the movements of the limbs subside, the head was rolled rapidly from side to side, and after a time came an interval of rest, but no return of consciousness. Then followed another severe convulsion up to 9 A.M. of the 17th; twelve hours after the first attack he had nine convulsions.

"On the 18th he was again quite well, suffering only from lameness in the shoulders and arms.

"October 21st.—Is very much prostrated, and prefers to lie in bed.

"October 27th.—Is again about, apparently as well as usual. The bowels have not been moved for a week. One-half minim of croton-oil produced a free movement, after which he declared that he felt better than he had for months, and desired to go out. It was not deemed safe to grant him permission so to do.

"November 8th.—Awakened feeling unusually cheerful. On coming out of the bath-room, where he had been washing, he passed through the hall and entered the adjoining room. His sister, sitting near the window—he just within the door—noticed that he stood rigid, with fixed eyes, as if dazed by the light. She hastened to him, fearing that he was about to have a convulsion; but, before she reached him, he fell sidewise to the floor, breathed stertorously for a few minutes, and died.

"I made the necroscopy with the assistance of Mr. E. Wilson, my student, at 11.30 A.M. to-day, some twenty-seven hours after death. Only the head was examined. After removing the calvarium, its inner surface was examined and found free from exostosis; the cerebral surface was but moderately congested; the vessels of the pia mater contained rather less than the usual amount of blood; there was no effusion of blood, either on the surface within the ventricles, or in the substance of the brain.

"On the inferior surface of the brain the most noticeable feature was the large size of the basilar artery, its diameter being probably one-fifth larger than the average, though the brain itself was a large one, weighing fifty-six and three-fourths ounces.

"The artery was also the seat of extensive atheromatous degeneration. The minuter arteries have not been carefully examined; it is probable that they are in some degree similarly affected. The protruding ends of the internal carotids are also the seat of atheromatous changes. At the posterior border of the choroid plexus, just where it dips down into the posterior horn of the right lateral ventricle, there are two small, lens-shaped growths of firm texture, buff-colored, and of about the size respectively of a small split-pea and kidney-bean. These are the only lesions apparent upon the superficial examination thus far made, and they seem hardly sufficient to account for the sudden death.

"The diseased condition of the arteries has no doubt existed for a long time, and was looked for with some degree of confidence of finding associated with it somewhere a rupture of the arterial walls. Thus far no such condition has been found, and further, the basilar artery is not occluded, but freely pervious in all its course. The same is true of all the arterial trunks and branches visible on the inferior surface of the brain. In the absence of any gross lesion, and after a reconsideration of all the symptoms, we are met with the question, so often propounded after the most searching post-mortem examinations, What, after all, was the immediate cause of death?"

DR. WYETH had seen a case with Dr. Weber, in which the clinical history was almost identical with that given by Dr. Van Gieson. In that case the basilar artery was occluded. He also referred to eight cases reported by Dr. Hammond, in which there was occlusion of the basilar artery, and the mode of death was like that which took place in Dr. Van Gieson's case.

DR. SHRADY suggested that in Dr. Van Gieson's case the basilar artery was not entirely occluded.

DR. CARPENTER suggested the possible existence of fatty degeneration of the heart as an explanation of the sudden death in Dr. Van Gieson's case. He then referred to a case recently reported by Dr. Noeggerath, in which the heart was carefully examined with a view to the administration of anæsthetics for the performance of an important surgical operation. It was decided that the heart was perfectly healthy, and there was nothing in the history of the case to indicate that there was any cardiac disease. The patient died suddenly a few hours after the operation. At post-mortem there was found extensive fatty degeneration and infiltration of the heart-muscle, and the sudden death was attributed to paralysis supervening upon that pathological condition. The patient rallied from the operation, and there was no internal hemorrhage.

DR. VAN GIESON said that such cases were more or less capable of diagnosis, as there was usually great fatigue upon exercise, shortness of breath, and other rational symptoms.

DR. PUTNAM-JACOBI referred to the occurrence of symptoms of pseudo-apoplexy depending entirely upon the weakened condition of the heart and circulation, and in which patients lost consciousness over and over again, and then passed on apparently as healthy as before. Dr. Stokes had directed attention to a number of such cases, in which the valves of the heart were perfectly free from lesion, and the only physical signs that could be obtained of cardiac disease was weakened impulse, weakened first sound, and very slow or exceedingly rapid

pulse. In those cases sudden death frequently occurred.

Dr. Van Gieson remarked that he had frequently seen such cases, but had never seen convulsions in such a case.

Dr. Ripley referred to the fact that in quite a proportion of cases patients suffering during life from marked brain-symptoms which led to the supposition that at the autopsy important pathological changes would be found, but in which substantially nothing was revealed. He referred to a case which came under his observation eight years ago. The patient had suffered from sunstroke, and from that time onward he had severe headache. His mind gradually failed, and about six weeks before his death he became semi-comatose and died in that condition. At the autopsy, which was made by Dr. Delafield, nothing was found which explained the cause of death. Dr. Delafield also made a microscopical examination of the brain, and then was unable to find the cause of death.

Dr. Putnam-Jacobi remarked that the brain-lesions were usually only the approximate cause of death. Persons with tumors in various parts of the brain often died suddenly, and under such circumstances, although the tumor had existed for a long time, it could be regarded only as the remote cause of death, for death was produced only by inhibiting the cardiac centre or the respiratory centre of the medulla. If the basilar artery was diseased, as it was in Dr. Van Gieson's case, its branches would also be found in a more or less diseased condition. Those which passed into the pons might be so diseased as to obstruct the circulation, and thus the convulsions would be explained. Those which passed to the respiratory centre in the medulla might be so diseased as to temporarily plug the arteries, and thus give rise to sudden death. She was not able to understand why it was necessary to have a larger lesion than that apparent in Dr. Van Gieson's case to explain the sudden death. Of course, in this estimate the existence of cerebral hemorrhage or lesions of that character were to be excluded.

Dr. Van Gieson thought that in cases in which, from the character of the symptoms during life, it was expected that marked gross lesions would be found at the autopsy, we were frequently disappointed.

Dr. Ripley remarked that sudden death from cerebral hemorrhage was exceedingly rare. In almost all of those cases in which sudden death was supposed to be due to cerebral hemorrhage, the immediate cause was due to some other lesion. He had not seen a case in which sudden death had been produced by cerebral hemorrhage.

Dr. Carpenter remarked that he had seen a number of cases in which it was evident that sudden death had been produced by cerebral hemorrhage, as proven by the autopsy.

(To be continued.)

A Successful Gastrotomy has been performed recently by Mr. Jones, of the Manchester Royal Infirmary, England. The patient, a girl, aged twenty-one, had stricture of the œsophagus, caused by swallowing nitric acid two years before. Bougies had been used at intervals, but finally none could be passed. The operation was performed in two stages, according to Mr. Howse's plan. Everything worked successfully, and the patient, since the establishment of the fistula, has gained twenty pounds.

## MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

*Adjourned Annual Meeting, November* 28, 1881.

Dr. A. E. M. Purdy, President, in the Chair.

After reading the minutes of the annual meeting held October 24, 1881, the Secretary read the

REPORT OF THE COMMITTEE ON ETHICS,

submitted by its chairman, Dr. E. Darwin Hudson, Jr. The committee reaffirmed the view presented by the Committee on Ethics last year, namely, that "it is undignified and unprofessional for a member of the profession to lend his name and indorsement to an advertised or patented medicine."

The committee had found no occasion for recommending discipline. While regarding the willingness of physicians to appear often in print as in very bad taste, the committee did not object to occasional communications or interviews on subjects of absorbing public interest.

The committee could not endorse, in its present form, the resolution concerning interviewing, introduced by Dr. C. D. Varley at the stated meeting held September 26, 1881. The resolution was: "*Resolved*, that the profession, so far as represented by this body, entirely disapprove of the recent system of interviewing, considering it contrary to the dignity and etiquette of the medical profession, especially when held in reference to the condition and treatment of patients not under our care, and concerning whom we have no knowledge except from hearsay report."

The interviews alluded to, the report went on to say, "were based upon reports and knowledge promulgated in official daily bulletins and personal experiences to the press by the attending physicians. Hence, they constituted a proper basis for just comment." The committee reported, however, that they deprecated the departure from the spirit of the code of ethics in the reported conversations or interviews with reporters of several prominent physicians, in which they criticised or attacked the character and conduct of the physicians attending a case of which they had no personal knowledge.

The report was accepted and ordered upon the minutes.

The retiring President, Dr. A. E. M. Purdy, then briefly reviewed the work done by the society during his administration, especially in the direction of efforts to enforce the medical law passed in May, 1880.

The address began with a quotation from the remarks made by Mr. Rivington (Carmichael Prize Essay): "Unqualified practice has prevailed from time immemorial, and appears likely to prevail in all time to come. The grievous harm done by common artificers and ignorant pretenders has been the subject of comment and assigned as the reason for legislation, but the result has always been the same: quacks have continued to abound and flourish, and unqualified persons have continued to practise and prescribe. It cannot be otherwise so long as the Legislature proceeds upon the principle—the liberty of the subject. It is held that any man has a right to choose his own doctor—qualified or unqualified." In this country and in this State the question of the suppression of "empiricism" was agitated in 1796 and 1805, and in 1806 the first "Act to regulate the practice of physic and surgery" was passed. In 1818 this society urged the profession in general to comply with the

law. In 1819, suits were begun against unlicensed practitioners. In 1822, it was proposed to publish a list of "legal practitioners," but objection was made because it was difficult to decide who belonged to that class. In 1823, a committee was appointed "to devise a system of association calculated to advance the interest and honor of each individual member," and they reported that the object of all associations was "interest and improvement," but "at times neither is obtained because members are sometimes too selfish and sometimes too indolent, and the contempt of the public is the consequence." The President queried whether all the members at the present time had manifested a commendable degree of zeal in the work which the society had been struggling of late to perform, especially those who had manifested a disposition not to pay their assessments.

In 1824, a census of physicians was made, and in the same year the society passed a resolution condemning the giving of certificates to quack or secret remedies. In 1830, Dr. Piexotti, President of this Society, memorialized the Legislature concerning the great prevalence of quackery, and the necessity for enactments to exclude from the practice of the healing art all ignorant pretenders and knavish impostors. In 1831, this society pledged itself "toward the suppression of quackery in every form," and so the struggle went on until 1866, when the Metropolitan Board of Health was established, and every physician was required by law to register his name in a book in charge of that Board. The desired force of the requirement, however, was lost, because the Registrar did not know what constituted proper credentials, and at the same time was unable to refuse registration. Under the law of 1874, the board of censors made a careful census of the practitioners in the county, and for a time, at least, succeeded in driving from the city nearly four hundred irregulars. The President then quoted quite extensively from an article on "The Statutes Regulating the Practice of Medicine," written by Dr. Ernest W. Cushing, and published in a late number of *The International Review:*

"In the first place, it cannot be denied that any law restricting the right of all persons to practise medicine secondarily interferes with the right of every one to choose his own physician, and is thus doubly an invasion of perfect freedom.

"The second obstacle to regulation of medical practice by statute is the difficulty of fixing the proper standard of professional attainment, owing to the great difference in the requirements of various medical colleges.

"The third obstacle to medical legislation is the opposition of the spiritualists, clairvoyants, magnetic rubbers, and charlatans of every kind."

"Perhaps the greatest obstacle to such a law is the feeling on the part of the public that any such legislation would greatly, if not unduly, favor and protect the medical profession against the competition from quacks."

The President also alluded to other obstacles: the two principal systems on which medical statutes had been framed—the Continental and the English, and came to the laws passed in New York and other States. Some account was given of the obstacles to the enforcement of the law of 1880, and the manner in which the apathy and lack of sympathy of the Grand Jury was manifested. For example, such questions as the following were put to him by members of the Grand Jury: "Is it necessary for a man to have a diploma to practise medicine?" "Has he killed anybody?" "Has this prosecution anything to do with the schools?" "What interest have you in this matter?" Reference was then made to special cases in which only a partial success had been obtained. For example, Dr. ———, the notorious catarrh doctor, was indicted for misdemeanor instead of for perjury, fined one hundred dollars, and escaped.

Gratifying indeed would it be could we bear testimony to the total extinction of quackery, but great must be the change in public opinion before we can arrive at so happy a result. The interests and character of the profession and the public good required combined and patient effort toward securing such legislative enactments as might be necessary to protect medical science.

During his official connection with the society—ten years as secretary and three years as its presiding officer—its numbers had increased from two hundred and fifty to above eight hundred, and surely such a growth must be gratifying to all who had been associated in its management. Of those with whom he had been associated in an official capacity, many had passed away, some weighted with years and honors, others just as their day of usefulness was dawning. Their memories are hallowed, and their examples are a precious heritage. Bibbins, Underhill, Elliot, Peaslee, and a score of brilliant, earnest workers are gone. But, taking fresh courage, may we labor on, holding high the standard, united in a common cause, the universal brotherhood of our profession, the elevation of the science and the art of our calling, and the amelioration of the sufferings of the race.

With gratitude for the uniform courtesy and kindness of his brother officers and fellow-members, he commended to the society his successor in office, and asked for him a hearty support and earnest co-operation.

Dr. O'Sullivan referred to the good and useful work done by the society in its efforts to suppress quackery, and believed that much of the success obtained had been due to the unceasing labor and untiring energy of the retiring president.

On motion made by Dr. O'Sullivan, the society unanimously extended to Dr. Purdy its hearty thanks for the uninterrupted service which he had given to it during the last thirteen years.

The society then adjourned.

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### Stated Meeting.

The stated meeting held on the same evening, was called to order by the President, Dr. F. R. Sturgis.

#### The President's Inaugural Address.

The policy of the coming administration was sketched, and special attention directed to some of the deficiencies of the medical law of 1880, under which the prosecutions of the past year have been made.

In the first place, the law does not include many who ought to be regarded as legal practitioners of medicine. For example, one Dr. Kraft escaped indictment because he swore that he cured diseases by electricity, and did not prescribe medicines. The Justice held that Kraft was not a physician; hence, was not required to register, and could not be indicted as an illegal practitioner.

In the second place, the law, by the use of the words "now lawfully engaged" (Section 2), makes it

possible for regular physicians only to commit perjury. The irregular practitioner may swear falsely as to where and how he obtained his diploma, and yet the law seems to say he cannot commit perjury.

Nor does the law prevent a man who has been once indicted from practising under cover of selling medicines.

To remedy these defects, the President suggested the passage of a law obliging all future practitioners of medicine to prove their qualifications by a State examination, and by placing all the different schools upon an equal footing. One of the most serious obstacles to the securing of this would be public apathy, for which, perhaps, the medical profession was, to a degree, responsible. Distasteful as the confession might be, the public do not care very much about having educated physicians. Indeed, one grand juryman said that he did not see the necessity of a physician having any special education or diploma. Besides, the public think that these laws are only attempts of one sect in medicine to fight another, not reflecting that they are the ones who are most injured by the malpractice of ignorant pretenders. It rested with the individual members of the medical profession to correct these impressions.

In closing, the President expressed his thanks for the high honor conferred by electing so young a man to the presidential office, and said that he should spare no efforts to keep the work of the society up to the same standard in the future that it had obtained in the past.

The paper of the evening was read by Dr. A. B. Judson, and entitled

A PRACTICAL POINT IN THE MECHANICAL THERAPEUTICS OF HIP DISEASE.

The author gave a brief analytical consideration of the causes of the relaxation which has been noticed in the leathern straps at the lower part of the ordinary long hip-splint when the patient stands. The subject has been commented on by Drs. Hutchison and Schaffer, and others. The chief cause was found in the too light construction of the splint. It is difficult to induce an instrument-maker to furnish a splint sufficiently strong to meet the requirements of the case. It was demanded, however, by the interest of the patient. A strong and unyielding support would protect the joint from concussion in locomotion, by keeping the heel of the patient removed from the ground. It would further make the splint more efficient as a means of fixation or immobilization of the joint, which was considered by the author of the paper as one of the principal functions of this apparatus. To further aid in preventing the lower straps from becoming loose, stout perineal bands should be used, and a low pelvic band below the anterior superior spinous process, which afforded points of attachment more nearly on a level than when the high pelvic belt was employed.

Dr. Schoenemann alluded to the fact that many surgeons went to the instrument-maker and simply took and endeavored to use whatever instrument was offered them, and of course failed in their efforts to treat the case. The reason for the failure consisted in the fact that a proper appreciation of the end to be attained, and the means by which it was to be secured, was not always borne in mind. Attention to minor details gave success. He regarded the physiological treatment as valueless in synovitis of the hip-joint, while it might be serviceable in some other cases; therefore the importance of correct diagnosis. With reference to traction to afford rest to the inflamed joint, only so much was required as was necessary to overcome the power of the muscles.

Dr. Lewis A. Sayre remarked that he had adopted the physiological treatment of hip disease in sixty or seventy cases, and for himself, at least, had demonstrated that the plan had no practical value whatever. He was attracted at first, because of its apparent reasonableness and its actual simplicity; but it had not stood the practical test.

With reference to the splint, with its pelvic band, perineal straps, etc., he thought if the column of weight was borne upon the perineal straps, it made no difference should the extension-straps be more or less loose, for the amount of traction necessary was not very great after all. The amount of traction necessary was only that required to make the patient perfectly comfortable, and as soon as it was applied in the line of the deformity, a very small amount answered all indications, and more was very liable to damage.

With reference to keeping up extension, and at the same time allowing motion in an inflamed joint, he knew the statement made by Dr. Agnew in his recent work on surgery, that it was an impossibility, was not true. Extension was necessary to prevent interstitial absorption produced by pressure resulting from reflex muscular contraction, which held the inflamed joint surfaces in close contact with each other, and the requisite amount could be secured by various splints now in common use, and at the same time permit motion in the joint, and thus prevent anchylosis. The essentials were a fixed perineal pad, which would receive the weight of the body, transferred from the joint to the perineum, and only such an amount of extension as was necessary to render the patient perfectly comfortable, and prevent the inflamed surfaces from rubbing against each other.

Dr. M. Josiah Roberts thought the theory advanced by the author of the paper was correct when studied from a mechanical point of view. The immobility, regarded by Dr. Judson as essential, could be better secured by lowering the pelvic belt and narrowing the space between the points of attachment for the extension-straps. With reference to the indication, however, in the mechanical therapeutics of hip disease, there was room for difference of opinion.

Dr. Malcolm McLean thought the mistake was very frequently made of applying too much extension in the treatment of joint-affections. The amount necessary was simply that which was sufficient to keep the muscles quiet.

Dr. Judson said that he did not apply extension and counter-extension with the view to counteract the articular muscles so much as to secure *fixation* of the joint, and to that end it was only necessary to secure with the rack and pinion that fractional degree of fixation which would secure perfect comfort for the patient, and facilitate his recovery.

The society then adjourned.

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The Hospital for Oral Surgery in Philadelphia is an institution which is calculated to develop dentistry into a genuine surgical specialty. The Hospital gives certificates of qualification to practise this branch only to persons who have studied dentistry, have received a medical degree, and have made some special study of the surgery of the mouth.

## MATERIA MEDICA SOCIETY.

*Stated Meeting, October* 27, 1881.

DR. PIFFARD, PRESIDENT, IN THE CHAIR.

### ADJUVANTS AND CORRIGENTS.

A PAPER on "Adjuvants and Corrigents" was read by DR. CASTLE (*vide* p. 647).

In discussing the paper, DR. SEXTON stated that he had been accustomed to use nitrous oxide gas for the relief of asthma. Its marked stimulating effects had suggested to him the desirability of employing it in combination with chloroform, to counteract the depressant effect of the latter agent. Besides possessing stimulating properties, it decidedly facilitated the action of chloroform. He had not followed up these experiments, but was satisfied that a combination of nitrous oxide, and perhaps other agents, with chloroform, would act admirably.

DR. BRONSON thought that the paper covered so vast a field, and embraced so many points of practical interest, that it would be impossible to discuss it properly at the present meeting.

DR. PIFFARD recommended that the paper be made a special order for some subsequent meeting.

On motion, it was resolved that the author of the essay be requested to have it published in the MEDICAL RECORD as soon as practicable, and that a copy of the journal be furnished to each of the members of the society.

In the general discussion which followed, DR. MORROW remarked that, while the author of the paper had shown the decided advantages sometimes derived from the use of adjuvants and corrigents, yet he was inclined to think that it was preferable, so far as practicable, to employ drugs singly rather than in combination. He thought that much of the uncertainty and confusion which attended the use of drugs was due to the multiplicity of the agents prescribed. In order to get definite and precise results in prescribing, the action of the principal drug or essential agent should not be masked or modified by combining it with others. Specific medication was the object aimed at in therapeutics. The more specific remedies were, the less did combination become necessary. Adjuvants and corrigents were not given to modify the effects of mercury in syphilis, of quinine in malaria, or the specific action of ergot, morphine, etc.

DR. SMITH said that professors of materia medica and therapeutics were, as a rule, quite prolific in formulæ, and accustomed to give prescriptions with numerous combinations. He, however, was an exception. He had that day seen a case in which the patient showed him the prescription the doctor had given him, containing eight or ten different ingredients. The more he advanced in practice, the more he felt inclined to give remedies singly.

DR. WEBSTER said that he had never been in the habit of giving many drugs in the same prescription, although, as a matter of course, he did not employ as large a number of remedies as the general practitioner. His armamentarium was small, comprising mercury and potassium iodide for syphilitic affections—the mercury he almost always used by inunction—codeia as an anodyne, or morphia, atropia, strychnia, and a few others.

DR. CASTLE said that while there was no doubt that progressive physicians were gradually eliminating superfluous drugs from formulæ and using single remedies, yet there were certain agents, especially narcotics, which it was desirable to use in combination. He recommended that morphia and atropia should always be used in combination. Dr. Harley had advised that when sedatives were used in conditions of weakened heart-action, respiratory stimulants should always be exhibited to counteract their depressant effect. Fothergill had pointed out the desirability of using respiratory stimulants in combination in certain conditions, and respiratory depressants in others. As of great importance, another point to be emphasized was the value of employing certain adjuvants to increase the activity of the organs through which certain drugs were normally eliminated.

A general discussion then ensued as to the properties and therapeutic value of the modified Warburg's tincture. Drs. Purdy, Castle, Smith, and Farnham participated.

The society then went into executive session.

## Correspondence.

### THE CONDITION OF THE ARTERIES AFTER DEATH.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: It is with great diffidence that I venture to differ on an anatomical question with so distinguished an anatomist and surgeon as my friend, Dr. William Hunt, of Philadelphia, but I cannot allow his criticism of me in the last number of THE MEDICAL RECORD to pass unnoticed.

Commenting on my statement (and that of Dr. Sims to a like effect), that the blood extravasated into the peritoneal cavity in President Garfield's case might have been pushed out by the injection of chloride of zinc solution used shortly after the death of the patient, Dr. Hunt says: "Have these gentlemen forgotten the very elementary principles and facts of their training as to the blood-vessels? Were they not taught that the very name 'artery' is a misnomer, and arises from the fact that the ancients found the arteries empty after death, and that the knowledge of their uses was not fully made out until the time of Harvey?

"Those who have spent years in the sculleries of dissecting-rooms and in the rooms themselves know practically that nothing is pushed out from *arteries* by injections, for a very plain reason: that there is nothing to push out."

To answer Dr. Hunt's questions categorically, I have only to say:

1. That I was very early in my student-life taught that the name artery is a misnomer.

2. That I was taught that the ancients from the time of Galen knew perfectly well that the arteries did not contain air, and that consequently we did not have to wait for Harvey to tell us this.

And I will add:

That I was also taught that the idea that all the arteries are found empty after death is erroneous, and that my own observation has convinced me of this fact.

If I had got my teaching entirely from the dissecting-rooms and their "sculleries," I might have been brought to believe that the whole arterial system became completely empty at the death of the individual; whereas it is a matter of fact that it does nothing of the kind. The arteries contract after

death, but the process does not begin immediately. They are therefore of smaller size than during life, and hence they contain less blood; but, as a rule, with the exception of the large vessels near the heart, they are full, and this is especially true of the splenic artery. This artery is, as my friend knows better than I do, remarkably tortuous, its coats are thicker than those of any other artery in the body, and it is the largest branch of the cœliac axis. Hence (particularly from the thickness of its coats), its calibre is not materially diminished after death, and it always contains a large proportion of blood.

It may not be out of place for me to state that several years ago, while in Philadelphia, enjoying, among the other pleasures of that delightful city, the scholarly companionship of my friend, I made a special study of the spleen, examining for this purpose the organ in over a thousand animals of various genera and species. Hence, I am tolerably familiar with it and its vessels.

But I do not wish to have the questions raised by Dr. Hunt depend upon my own opinion. I have, therefore, to "hurl" at him two or three authorities.

Müller,* speaking of the contractility of the arteries, as exhibited after death, says:

"They are, in fact, for the most part not quite empty, but contain as much blood as they are able to admit in their most contracted state."

And again:†

"It is not rare to find blood in the arteries after death."

Relative to the peculiarities of the splenic artery, I quote from Kölliker‡ as follows:

"The size of the splenic arteries is very considerable in proportion to that of the organ, and so also the thickness of their coats is worthy of notice. . . . . In the mammalia generally the splenic artery is proportionally smaller than in men. This possibly depends only upon the more considerable contraction of the vessel at their death. Wintringham finds that the thickness of the arterial coats is greater than that of the aorta above the giving off of the renal arteries, to which it bears the ratio of 1 to 0.762. He also states that they will sustain a pressure of forty-one pounds."

Dissecting-room subjects are not suitable for studies of the kind in question. Days, even months, sometimes elapse before they are examined. As soon as they are obtained a preservative fluid is injected into the vessels, and then perhaps a further injection for display purposes is introduced. In the case of General Garfield the chloride of zinc solution was injected at so short a period after death that there was not time for the arteries to contract to any considerable extent.

If my distinguished friend will only call to mind his anatomical knowledge, derived from his extensive hospital experience and the numerous post-mortem examinations he has made, and forget for the moment that which has come to him from the dissecting-rooms, I think he will agree with me that there was some warrant for my assertion that the extravasated blood in the President's case *might* have been poured out from the splenic artery after death. And I think also that, upon mature reflection, he will recall his opinion that the extraordinary and unscientific proceeding of injecting with chloride of zinc a body upon which the most important post-mortem examination of our times was to be performed was "a good thing."

WILLIAM A. HAMMOND.

NEW YORK, December 4, 1881.

* Elements of Physiology, Baly's translation. London, 1840, vol. i., p. 214.

† Foot-note, p. 219.

‡ Article "Spleen," in Todd's Cyclopedia of Anatomy and Physiology, part iv., p. 788.

## CONCERNING THE FINDING OF BALLS IN CAVITIES.

TO THE EDITOR OF THE MEDICAL RECORD.

DEAR SIR: In the number of your journal for December 3, 1881, Dr. E. B. Turnipseed, of Columbia, S. C., expresses his belief that if the President's physicians had used his instrument for finding and extracting balls, which instrument he says "is yet unknown to the profession," they would have saved his life, and the nation would have been spared this great loss.

I have a word to say in reply to this afterthought of Dr. Turnipseed, and the equally untimely afterthoughts of a few other medical men, namely, that it is somewhat singular that not one of these gentlemen, who so grieve over the shortcomings of the late President's doctors, have ever in a single instance tried their methods upon a human being. They have no successes to record, no failures indeed, for the good reason that they have never put their methods to the test of experience; but, nevertheless, the President's doctors ought to have tried their methods, and if they had there is not a shadow of doubt in their minds that the President would have been alive to-day.

If none of the critics have sufficient surgical practice to enable them to try their plans of searching for and removing a bullet from the abdominal cavity, I wish to suggest what does not seem to have occurred to them, that they shoot balls into the abdominal cavity of a cadaver, and then determine by actual experiment whether they can track or remove a ball by the use of their ingenious devices. If it can be done on the living subject, they certainly will experience no difficulty in doing it upon the dead. Let such gentlemen, in the presence of four or five intelligent and honest surgeons, do this a dozen or more times and tell us the results, with full details as to the time occupied, etc. Dr. Turnipseed has had the instrument made by Mr. Tiemann, and it is all ready now for use. Suppose the Doctor with a few others try it, and, if he succeeds, it may save the life of the next president who is shot—provided, of course, some person sufficiently skilled in the use of surgical instruments is employed to treat the case, for such ingenious devices must not be held responsible for a failure when placed in the hands of such men as were employed in the case of the late President.

If the importance of the subject can justify a further occupation of space in your valuable journal, I would like to say a word or two more.

Dr. Turnipseed, before entering upon his criticism, uses the following self-deprecatory language: "I falter when I think of the grave responsibility and *my incapacity* for so great a task." In behalf of science I wish to protest against a sentiment so calculated to arrest or retard its future progress, namely, that "incapacity" should induce any man to hesitate in the expression of an opinion; and I am pleased to see that, notwithstanding this declaration as to his own qualifications as a critic, he does not hesitate to condemn the surgical treatment in the

case of President Garfield as bad from beginning to end. I may not, and others may not, agree with him, but it vindicates the principle of the right of every man to give an opinion, and it is in this way alone that science can make advances despite the narrow, unprogressive spirit of those who have only travelled the beaten road of experience. If certain things had been done with the aid of his new instrument, the case, he says, "would have probably resulted in recovery." "If ever the ball had been located any time during the President's illness, it would have been *unjustifiable and hazardous* to cut it out either from the front or rear (I think Hammond would express some doubt on this point), but I firmly believe that my bullet-forceps would have followed the *tortuous* track, seized and brought out the bullet at the point of its entrance. . . . I have a firm conviction that time and a full test of these instruments will prove the correctness of my assertions." A "test" may be necessary in the opinion of some gentlemen, but it is surprising to note that our author has convictions so strong that he has never thought it necessary to put himself to the trouble of making any sort of test.

It is due, Mr. Editor, to this sound cardinal principle of the right of every man, whether surgeon, physician, or layman, to speak his opinions freely, that so many have given to the doctors in attendance and to the public at large their valuable suggestions. It is seldom that any two agree in their suggestions or in their criticisms; but, so much the better, since there are now, perhaps, a thousand different ways in which it is known a valuable life might have been saved, while there might, if all had thought of the same thing, have been only one way. If, for example, all had thought only of the instrument in question, possibly it might not have been at hand when it was most needed.

I only wish to suggest, in conclusion, that it is sincerely to be hoped, in the interests of medical science, that some one hereafter, at a proper time, will gather into one volume—or a dozen volumes, if necessary—all the plans of treatment which would, beyond a question, have saved the life of our late President, including the plans proposed by newspaper editors, medical men, and the thousand or more suggestions contained in letters written to the doctors while they were in attendance upon their distinguished patient. Who can estimate the value of such a contribution to medical science and to humanity? Yours very respectfully,

L. DAMAINVILLE, M.D.

245 WEST FIFTY-SECOND STREET,
New York, December 5, 1881.

A CASE OF SLOW PULSE.—Dr. J. Baranowitz, of Farmingdale, N. Y., sends us the following history: "Mr. Henry Green, of this place, is a small, thin man, in good health, and of very phlegmatic temperament. Two years ago he came under my observation, afflicted with strangulated hernia of several hours' duration. He was in great pain and very anxious. Feeling his pulse, I found it to be at 40 a minute. The operation was unusually delayed; just before it he was very restless, suffering severely, with a temperature of 103° and a pulse of 64, which was the highest observed. Within four days after the operation it came down to 40 per minute.

"I requested the gentleman to step into my office to-day, November 15th, when I made the following observation: In recumbent position, 42; sitting, 43; standing, 45. Heart otherwise normal."

## ARMY NEWS.

*Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from November 27, 1881, to December 3, 1881.*

HALL, WILLIAM R., Capt. and Asst. Surgeon. The leave of absence granted him in S. O. 224, Department of the Missouri, November 2, 1881, is extended fifteen days. S. O. 120, Military Division of the Missouri, November 25, 1881.

CORBUSIER, WILLIAM H., Capt. and Asst. Surgeon. Granted leave of absence for four months. S. O. 266, A. G. O., November 25, 1881.

DAVIS, WILLIAM B., First. Lieut. and Asst. Surgeon. Granted leave of absence for four months. S. O. 269, A. G. O., November 29, 1881.

STRONG, N., First Lieut. and Asst. Surgeon. Relieved from duty at Fort Douglas, U. T., and assigned to duty as Post Surgeon at Fort Cameron, Utah. S. O. 121, Department of the Platte, November 26, 1881.

TAYLOR, A. W., First Lieut. and Asst. Surgeon. Assigned to duty at Fort Supply, Ind. Ter. S. O. 246, Department of the Missouri, November 29, 1881.

CARTER, E. C., First Lieut. and Asst. Surgeon. Assigned to duty at Angel Island, Cal. S. O. 203, Military Division of the Pacific and Department of California, November 22, 1881.

RAYMOND, HENRY I., First. Lieut. and Asst. Surgeon. Assigned to duty at Alcatraz Island, Cal. S. O. 203, Military Division of the Pacific and Department of California, November 22, 1881.

## Medical Items and News.

CONTAGIOUS DISEASES — WEEKLY STATEMENT. — **Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending December 3, 1881.**

| Week Ending | Typhus Fever. | Typhoid Fever. | Scarlet Fever. | Cerebro-spinal Meningitis. | Measles. | Diphtheria. | Small-pox. | Yellow Fever. |
|---|---|---|---|---|---|---|---|---|
| Nov. 26, 1881. | 1 | 28 | 140 | 5 | 65 | 100 | 8 | 0 |
| Dec. 3, 1881. | 0 | 43 | 220 | 2 | 84 | 93 | 33 | 0 |

BLINDNESS IN SPAIN.—The above is the title of a treatise read by Dr. Carreras-Aragó at the inaugural session of the Academy and Laboratory of Medical Sciences of Catalonia. According to his statistics, the proportion of the blind in Spain, as a whole, is 10.78 in 10,000 inhabitants. The minimum proportion exists in the provinces of Zamora and Palencia, 2.49 in 10,000; the maximum, in Cordova, is 22.44 in 10,000. After presenting the figures obtained in the various provinces, the author classifies his cases according to sex, age, and condition. A careful and conscientious study of his subject has enabled him to produce interesting data in regard to the etiology of blindness. He has observed the important differences in the geographical conformation of the various sections of the country, the conditions of the soil, the occupations of the inhabitants, etc. The

dryness of the soil, the intensity of the sunlight, certain occupations, such as the cultivation of rice, hemp, flax, rye, the want of cleanliness, and the lack of education, the geographical situation of the various provinces, are all factors in the production of blindness. In regard to the affections bringing about this condition, Dr. Carreras-Aragó presents the following figures: Out of 1,000 cases, 61 were due to structural anomalies, 56 followed purulent ophthalmia of the new-born, 91 resulted from granular ophthalmia, 43 from small-pox and various other exanthemata, 96 from glaucoma, 111 from affections of the cornea and iris, 210 from affections of the choroid and retina, 241 from affections of the optic nerve and cerebro-spinal trouble, and lastly, 91 were due to traumatisms.

Œnas Afer as a Vesicant.—In the *Siglo-medico*, Prof. Armengué, of Barcelona, details several experiments which lead him to recommend the œnas afer as a vesicant. The preparation is said to be prompt and certain in its action, and never painful. In every case the insensibility was extraordinary. The serum was clear and abundant, except in one case, in which it was bright yellow. No genito-urinary symptoms were produced, perhaps on account of the small quantity employed. The œnas afer is an insect which is quite common in certain parts of Spain. The author thinks it should rank higher than, or as high, as the cantharis.

The New York Society for the Relief of Widows and Orphans of Medical Men.—The thirty-ninth annual meeting of the society was held at the New York Academy of Medicine, on Wednesday evening, November 23d. In the absence of the President, Dr. William Detmold was called upon to preside.

The society proceeded to its annual election, which resulted as follows: *President*—Dr. Jared Linsley; *Vice-Presidents*—Drs. Isaac E. Taylor, Thomas F. Cock, Samuel S. Purple; *Treasurer*—Dr. John H. Hinton; *Managers for a term of three years*—Drs. James L. Banks, Gouverneur M. Smith, Joel Foster, T. C. Finnell, J. W. Warner, Alfred C. Post, and John J. Milhau.

The society has extended aid to twelve widows and four children of deceased members during the year. Two annuitants have recently been added, and will draw their first annuities on January 1, 1882. From the printed annual statement it appears that the total assets of the society amount to $135,459.68, chiefly invested in bond and mortgage.

The Ninth Annual Meeting of the American Public Health Association.—At the second day's sessions the following papers were read: "Inside Sources of Disease," by Dr. J. J. Speed, of Kentucky; "A History of Sunstroke Mortality in 1881," by Dr. A. J. Miles, of Ohio; "Malaria in New England," by Dr. J. F. Adams, of Massachusetts; "The Duties of the Citizen to the State in Maintaining Public Health," by the Hon. Erastus Brooks, of New York; "School Hygiene," by Dr. H. Isaac Jones, of Scranton, Penn.; "The Pernicious Effect of Tobacco on Youths," by Dr. Albert C. Georgas, of the Navy; "Fraternity Among Scientists," by Dr. Louis A. Falligant; "The Yellow Fever Epidemic of 1878," by Dr. C. B. White, of the Sanitary Association, the paper being read by Dr. Gustavus Deveron, of New Orleans; "Impure Water and Its Dangers," by Dr. Moses J. Runnells, of Indiana; "The Atmospheric Element in Local Epidemics," by Dr. T. C. Duncan, of Illinois; "Railroad Sanitation," by Dr. S. S. Herrick, of Louisiana; "The Control of Defective Sight on Land or Sea," by Dr. B. Joy Jeffries, of Massachusetts; "Health the True Nobility," by Dr. Albert L. Gihon, of the United States Navy. In the morning the association participated in an excursion down the harbor, tendered by the citizens.

On the last day an amendment to the constitution was passed making the Second Vice-President a member of the Executive Council. There was an animated discussion on a resolution to get State representation in the National Board of Health, which ended in the resolution being defeated. The following papers were read: "The Relations of State and Local Quarantine Systems to a National Quarantine System," by Dr. Stephen Smith, of New York; "The Origin and Progress of International Hygiene," by Dr. James L. Cabell, of Virginia; "The Prevention of Insanity," Dr. Charles F. Folsom; "Malaria in Connecticut," Dr. C. W. Chamberlain; "Observations on the Potomac Marshes as a Pathogenic Agent in the Production of So-called Malarial Fevers," Dr. A. G. P. Garnett; "Some Remarks upon National and International Sanitary Jurisprudence," Dr. Thomas J. Turner; "Two Suggestions Concerning Healthful Buildings," Dr. W. C. Van Bibber. A resolution to change the character of the Advisory Committee was voted down. The usual resolutions of thanks were then passed, and the convention adjourned *sine die*.

Dr. Ferrier Indicted by the Anti-Vivisectionists.—The English Anti-Vivisection Society has brought an indictment against Dr. Ferrier for vivisecting contrary to law. The action is based on the report of Ferrier's experiments before the Physiological Section of the International Medical Congress. At that time the defendant exhibited a monkey which he had trephined and made certain experiments upon in cerebral localization.

The "Popular Science Monthly" and Quack Advertisements.—A correspondent from Norwich, Conn., writes: "Some time ago I noticed with satisfaction your editorial on the subject of patent medicine advertisements in the religious press, and I find that your remarks on the subject had the effect of shaming some of the better class of religious periodicals. However, we know that the testimonials of the clergy are always prominent among the many appended to the advertisements of patent medicines, and it is not strange that the ministerial editors of the religious press should not be loth to turn an honest (?) dollar by giving their sanction to 'the fair Lydia's' antimechanical treatment of uterine displacements, and 'the only sure cure for catarrh.' But I desire to call your attention to a case which, to my mind, is far more reprehensible. Some months ago, in reading over the advertisements in a *scientific* monthly, intended for popular use, I was surprised to find that a page was devoted to the claims of a 'cure-all' blood compound. The fact of the advertisement being in such a periodical, supposed to be read only by those interested in scientific work, and flanked by an advertisement of scientific apparatus for sale, or an announcement of the publication of some of Herbert Spencer's works, struck me as rather peculiar, to say the least. This month's number (November) has, on two pages facing each other, no less than five evidently false advertisements—a 'cure for fits' (kind not mentioned), a 'sure cure for consumption,' somebody's pills to cure most anything, a long catch advertisement of a

liniment, and a cure for deafness. Turning over the page, we have another somebody's pills, and the kidney cure that we see everywhere. Alongside of these I find the announcement of an excellent medical work by one of your leading authorities in New York. Sandwiching in this way the advertisements of medical books and patent medicines I think is in anything but good taste. The editors of the *Churchman* and *Christian Union* MAY not know any better than to believe in a sure cure for consumption; the editors of the *Popular Science Monthly* MUST. The *American Agriculturist* says, in its advertising rates, 'No room for patent medicines and humbugs.' I would suggest that it would elevate the tone of the *Popular Science Monthly* if it should do the same."

THE NEW BALTIMORE MEDICAL COLLEGE has issued its first announcement. It says that it appears in no spirit of opposition to other schools, but rather to encourage and stimulate them to increased efficiency. It will seek to elevate the standard of medical education, professionally and morally, and covets the reputation of becoming a practical "Christian Medical School." It admits persons of both sexes. Its prospects of success seem to be founded on its religious and co-educational principles. The gentlemen composing the faculty have a good professional and social standing. With but one or two exceptions, none have achieved any especial eminence in medical or surgical science. The following are the faculty: Harvey L. Byrd, M.D., President and Professor of Obstetrics and Diseases of Women and Children; W. Robert Munroe, M.D., Professor of Materia Medica, Therapeutics, and Hygiene, Dean; Benjamin F. Leonard, M.D., Professor of Physiology, and Clinical Professor of Diseases of the Rectum; Henry Froehling, M.D., Professor of Chemistry, Toxicology, and Medical Jurisprudence; L. Wheaton Clapp, M.D., Professor of Principles and Practice of Medicine; John R. Uhler, M.D., Professor of Principles and Practice of Surgery and Physical Medicine; L. Robert Coates, M.D., Professor of General, Descriptive, and Surgical Anatomy; Adolph G. Hoen, M.D., Lecturer on Histology.

YELLOW FEVER IN THE UNITED STATES DURING THE PAST YEAR.—In the annual report of the National Board of Health, just published, it is stated that the only locality in the United States in which a case of yellow fever has occurred on shore during the summer is said to have been at Key West. The report goes on to say: "That the station at Ship Island and other similar stations which the board intended to establish, may justly be characterized as 'adequate safeguards' against the introduction of infectious diseases into any of the ports of entry which will co-operate with the National Board of Health in its efforts to secure such a result, seems to be sufficiently attested by the experience of this summer. Four yellow fever ships have been received and treated at Ship Island during the summer, the same having been sent thither by the quarantine authorities of Pensacola, Mobile, and Pascagoula. No death has occurred among the cases received in hospital, and no case of fever has occurred upon either of the vessels after they were released, or in any port where they have subsequently touched."

PICROTOXINE AND HYDRATE OF PICROTOXIDE.—Chirone (*Annali Univ. di Med. e Chir.*) reports numerous experiments made upon fishes, reptiles, birds, mammifers, and inferior animals. His researches lead him to assert that there is a difference in action between picrotoxine and the hydrate of picrotoxide, both of which are derived from the same plant, the *cocculus indicus*. The hydrate of picrotoxide is much feebler than picrotoxine, and may be used for the latter, which is thirty times as powerful. 1st. The hydrate of picrotoxide, called by Barth and Kreschy picrotine—they believing it to be bitter, but not poisonous—does not merit this latter appellation, because it is not only bitter, but has toxic properties also. 2d. The toxic power of the hydrate of picrotoxide is to that of picrotoxine as one is to thirty, approximately. 3d. The epileptic convulsions determined by the hydrate of picrotoxide, with slight differences, are analogous to those caused by picrotoxine. 4th. The difference between the two morbid forms may be reduced to the following characteristics: convulsions caused by the hydrate of picrotoxide affect either not at all, or very slightly, the ball of the eye; rather produce emprosthotonus than opisthotonus; affect rather the muscles of the extremities than those of the back; after death cadaveric rigidity comes on suddenly. 5th. The hydrate of picrotoxide, as well as picrotoxine, determines epileptic convulsions, acting upon the bulbar and spinal motor centres, so that its action is best seen, and in its greatest intensity, in decapitated frogs and in pigeons whose cerebellum has been removed. —*Riv. Clin. di Bol.*, August.

SUDDEN DISLOCATION OF THE LIVER, WITH RECOVERY.—Dr. Alexander Y. P. Garnett (*American Journal of the Medical Sciences*, January, 1881), reports, apparently, the only case of sudden dislocation of the liver, on record. A lady, aged fifty, while stooping down hurriedly to pick something from the floor, "felt a sudden wrench or giving way on the right side." Examination revealed a displaced liver reaching to the crest of the ilium. Much discomfort was experienced, but the patient was relieved by spontaneous reduction in the space of three days. A week's confinement in bed, followed by the use of a broad elastic band around the waist, constituted the necessary remaining treatment. The patient apparently regained, to a great extent, her normal condition and state of health.—*Chicago Medical Review.*

DR. T. LAUDER BRUNTON, editor of *The Practitioner*, has ventured into popular literature and written a work, entitled "The Bible and Science." It is published by Macmillan and has received very commendatory notices.

SMALL-POX RAVAGES IN CHICAGO.—Of 1,359 cases of small-pox in Chicago since January 1st, forty per cent. have proved fatal. It is noteworthy that by far the greater number of cases have occurred in those districts where the more degraded portion of the foreign element lives, and where attempts at vaccination have been met by open violence at times. In that portion of the city there are 40,000 persons who have not been vaccinated, and of the 108 deaths in September 81 occurred among these. It is believed that the publication of these facts will create such a sentiment as will result in almost universal vaccination and in increased diligence in the matter of cleaning the streets.

THE COLLEGE OF PHYSICIANS AND SURGEONS OF CHICAGO is the name of the new medical college organized at Chicago. The incorporators are Dr. A. Reeves Jackson, Dr. C. Warrington Earle, and Dr. A. K. Steele.

# Original Communications.

## KUMYSS.

By E. F. BRUSH, M.D.,

FELLOW OF THE NEW YORK ACADEMY OF MEDICINE, MEMBER OF THE WESTCHESTER COUNTY MEDICAL SOCIETY, ETC.

Historically the study of kumyss is very interesting. Homer speaks of the kumyss making Hippomolgi; we are justified in calling them kumyss-makers, as Herodotus, describing the same northern tribes, tells us that the Scythians deprived their slaves of sight, in order to keep secret the process of making a drink from mare's milk. Virgil, to come down to the commencement of our era, sings of the tribe:

"Qui lac concretum cum sanguine potat equino."

The line, of course, may be interpreted to mean that whey was the potation; but, as all other authors who allude to a beverage made from mare's milk, leave no doubt that it was a vinous fermentation, we may infer that Virgil meant the latter. Descending to still more recent times, Father de Robinquis, who was sent as an ambassador to the East by Louis IX. of France, in the year 1253, gives a very accurate description of the manufacture of kumyss. The most remarkable fact in his statements is that regarding the quantity of the product—one chief whom he met receiving daily that made from the milk of a hundred mares. Marco Polo, the great Venetian traveller, writing a few years later, speaks of kumyss as a common drink, wholesome, nutritious, and possessing important medicinal properties. Pallas, who was sent by the Empress Catharine II. to visit the less-known portions of her dominions, and who is still one of our best authorities, gave considerable attention to the question of kumyss. He writes (vol. i., p. 507, Paris ed., 1788) as follows: "As few mares give milk in winter, the Calmucks are obliged to content themselves, during that season, with that of the cow. They unanimously say that it is less spirituous than that of the horse." This remark sufficiently disproves the opinion of those recent newspaper writers who describe kumyss made from cow's milk as an imitation. He gives an account of the process of manufacture, in these words: "To sour the milk they pour it into large leathern vessels, and place them, in winter, near the fire. The condition of these vessels often of itself suffices to sour the milk. They use also leaven made of coarse flour, very salt. They add, sometimes, some of the last fermentation, or curdled milk, from the stomach of a lamb. They do not cream the milk; but, on the other hand, they employ a dasher, but this only in winter, as in summer they put the milk into skin-bags, which they shake two or three times a day." The above statements of Pallas apply to the Calmuck tribes; but as all the other Tartar tribes, the Crim Tartars, the Usbeks, the Nogai, the Kirghis, and others, all prepare it, there exists considerable difference in their methods. Until recent years it was not known that kumyss was made except among these tribes. The habits of these people show clearly why they are the sole kumyss-makers. They are nomadic, lazy, neglectful of agriculture. Their wealth consists in herds of mares, the milk of which cannot be manufactured into cheese or butter, and which, owing to the large quantity of sugar it contains, ferments spontaneously. This they undoubtedly discovered by attempting to preserve the milk, for a day or two, in skin-bags. From this step it is a short one to the discovery that the longer it was kept the more pleasant it became. Mrs. Guthrie, who visited the Crimea in 1795, writes: "On stopping at a village, the hospitable Tartars brought us a wooden dish of their favorite kumyss. The kumyss has a sourish-sweet taste by no means unpleasant to my palate. . . . But to return to our mare's milk. That fluid has long been known to yield an ardent spirit. But Pallas tells us that in his travels he met a horde of Tartars who possessed the secret of turning cow's milk into vinous fermentation, or, in other words, of converting it into kumyss." The account of Dr. Clarke, in his Russian travels, is too well known to need quotation, and gives us very little satisfactory information. Atkinson, in his "Oriental and Western Siberia" (p. 280), gives a woodcut of a group of Kirghis with kumyss-bottle and bowl, and describes the dwelling of a great and wealthy chief in the steppe. "In another part of the *yourt*," he writes, "is the large leathern kumyss-sack, completely covered up with blankets to keep it warm and aid the fermentation. This is a most important piece of furniture in a Kirghis domestic establishment. I have seen one five feet eight inches long and four feet five inches wide, with a leathern tube in one corner, about four inches in diameter, through which they pour the milk into the bag, and draw the kumyss out. A wooden instrument is introduced into the bag, the handle passing through the tube, not unlike a churning-staff. With this, the kumyss is frequently agitated. The bag is never washed out; it would be spoiled by doing so. Near the kumyss-bag stands a large leathern bottle, sometimes holding four gallons, often highly ornamented, as are the small bottles made to carry on the saddle.

"On entering a Kirghis *yourt* in summer, a Chinese bowl holding three pints of kumyss is presented to each guest. It is considered impolite to return the vessel before emptying it, and a good Kirghis is never guilty of this impropriety. They begin to make kumyss in April. The mares are milked at five o'clock in the morning, and the same hour in the evening, into large leathern pails, which are immediately taken into the *yourt* and the milk poured into the kumyss-bag. The first fourteen days after they begin making this beverage, very little of it is drunk, but, with fermentation and agitation, it is considered by this time in perfection, when it is drunk in great quantities by the wealthy Kirghis, as a man must have a large stud of brood-mares to afford a corresponding consumption of the beverage. Almost every Kirghis has a kumyss-bottle slung to his saddle, in summer, which he loses no opportunity of replenishing at every *aoul* he visits." I have quoted Atkinson at this length to avoid the necessity of quoting from our medical authorities, Dahl and Neftel, any accounts of the habits of the Kirghis, and the mode of preparation, as I wish to extract from them simply their statement as to its therapeutic value. In an official report to the Russian Government, in 1840, Dr. W. F. Dahl, after describing the people and their method of manufacturing kumyss, continues: "Peculiar as is the taste of kumyss, one soon becomes accustomed to it, especially if one tastes it for the first time when thirsty, or after violent exercise. It is then the most pleasant and refreshing of all drinks. The peculiar odor of kumyss is offensive to some persons; but, if it is tasted under the circumstances just mentioned, no one will ever abandon it for any other sort of drink whatever. It is very refreshing

and hunger-stilling, without being surfeiting. It only allays hunger without destroying the appetite, so that one can pass a long time without other food, and can also, while taking kumyss, eat just as much as at other times. Kumyss, too, has one very peculiar property which is difficult to explain, but which is confirmed by repeated experience: it is never surfeiting. One can, without any fear, drink as much as he will — an inconceivable amount — and yet always feel light and well. If one were to drink half the quantity of water, beer, or anything else, especially during the burning heat when one is forced to be on horseback, one would feel heavy, overfull, and weary. But every cup of kumyss gives new courage and strength. An intoxication such as is produced by wine never takes place after drinking kumyss, in whatever quantities you may; the result is a scarcely noticeable exhilaration, and this only when it is taken in very considerable quantities, or, in delicate persons, when it produces an inclination to a refreshing sleep . . . . The first feeling after copious draughts is costiveness, without any other inconvenience or loss of appetite. The stool regulates itself in the course of a few days, but there is always a tendency to obstruction, and the excrement is hard and less abundant than usual. The urine at the same time alters in quantity and quality; it is less abundant than usual, and generally discolored, with a strong sediment. It is remarkable how disproportionately slight the amount of urine is in comparison with the quantity of drink taken. Kumyss is, among the nomads, the drink of all children, from the suckling upward, the refreshment of the old and sick, the nourishment and greatest luxury of every one. The secondary effect of kumyss shows itself in less than a week in a good nourishment of the whole body, an increase in strength and spirits, and a general feeling of health. The respiration is easier, the voice freer, the complexion brighter; the faces which have become pallid and pinched in winter are scarcely to be recognized in spring, so sudden is the transformation to a healthy appearance. It is, however, very doubtful whether any nourishment, after such long fasting, hunger and short provisions, as the nomads endure during the whole of winter, would be suitable to their weakened frames or be able to restore them so quickly. After violent fatigues and hunger borne nobly for weeks, the Kirghis are careful to avoid excess of solid food, but indulge without fear in bags of kumyss.

"The diseases in which kumyss is beneficial are those where the body must be well nourished without loading the digestive organs. It seems, too, that kumyss is specially useful in chronic affections of the chest, not only in diseases of the lungs, but also of the bronchia and larynx. I will not assert that it can cure consumption and phthisis, but it suits these conditions better than any other nourishment, and may, even when the tendency is pretty well advanced, prevent the disease, especially if the cure can be kept up all summer, or if not prevent, at least delay it for some time. It is certain that among the Kirghis consumption and phthisis are very rare — much rarer than elsewhere; so, too, pneumonia, senile asthma, and dropsy of the chest. Of tubercular, pituitose, and other phthisis, I have seen no example among the Kirghis." Dr. Neftel, of this city, who in 1857, that is, twenty-three years after the visit of Dr. Dahl, was also sent by the Russian Government to the Kirghis steppe, in the district of Orenburg, confirms the observations of his predecessor. "Scrofulosis and rachitis are quite unknown among them; and, what is still more remarkable, I had opportunity to observe not one single case of lung-tuberculosis, although I sought for such cases with the greatest attention." To avoid repetition I will simply cite one case given by Dr. Neftel relating to kumyss treatment. "The patient, twenty-five years old, had always lived at St. Petersburg. Her physician there, a distinguished diagnostician, found tubercular infiltrations in both superior lobes of the lungs. During two years she coughed continually, with a muco-purulent expectoration often tinged with blood, and she became very emaciated. All other physicians consulted by the patient confirmed this diagnosis. During her first pregnancy the appearances of tuberculosis moderated, and the general condition improved; but, immediately after confinement, all the previous symptoms appeared with greater violence. The presence of cavities was clearly demonstrated, and a hectic fever set in. In this condition, the patient, by my advice, left the city, passed the whole summer in the steppe in a *kibitka*, and was methodically treated with kumyss. Her general condition gradually improved, and when she returned to the city in autumn she found herself nearly as before the pregnancy. The ensuing spring she again commenced the kumyss treatment, and I have lately received, here at Würzburg, a letter from her husband, in which he informs me that his wife is completely cured, and even coughs no longer."

The most recent article on kumyss has been written by Dr. A. M. Campbell, of Mount Vernon, N. Y., in the *American Journal of Obstetrics*, October, 1880. His observations are limited to the study of kumyss in cholera infantum. He reasons as follows: "In a severe case of choleraic diarrhœa we derive but little aid from medication, the primary cause of the disorder being the food put into the child's stomach. These cases occur almost exclusively among fed children. Our aim is chiefly directed to finding something on which the infant can be nourished, and which will not increase the trouble already existing. In kumyss we have a food which children with high temperature not only take kindly, but crave, its slightly acid taste being grateful to their parched tongues. It is an absolutely non-putrefactive food, is free from sugar, and is rarely rejected even by the most irritable stomach." After citing four cases successfully treated—cases, the types of many others—he continues: "Although I do not claim that kumyss is a panacea for every case of choleraic diarrhœa, I can say that we have in it a valuable aid with which to treat this most formidable complaint. . . . Its use in the early stages will aid in arresting the disease, by supplying nourishment which the infant can retain, and which will be readily absorbed. I can say for it that it has never failed me in any case of cholera infantum, except some in which well-marked brain-symptoms already existed, before it was administered, to such a degree as to preclude the possibility of a recovery. Even in these cases, it is an advantage, for we are giving a food which will not be vomited, and which will satisfy thirst."

Since the year 1875 I have been directing my attention to the study of milk, especially that of the cow, as an article of human food. My investigations naturally led me to the observation of kumyss, and I was much struck with the statements given by various travellers as to its therapeutic effects. Impressed with a conviction of its value in dietetics, I proceeded to make some experiments in producing it. The chief difficulty I found in the fact that mare's milk could not be obtained in sufficient quan-

tity for the purpose, while all the best kumyss of the Tartars is prepared therefrom. I sought consequently to ascertain the difference between the milks of the cow and of the mare. This again led me to form a classification which had never previously been made, namely, between the milk of the cud-chewers and that of the non-cud-chewers. I found that the former contained more caseine and of a different nature, more fat, and less sugar. The difference in the caseine of the cud-chewer from that of the non-cud-chewer is that the former variety coagulates into a hard, rubber-like mass under the action of acids and of the digestive ferment, while that of the latter, under like conditions, never forms the large coagulum, but is precipitated in fine, easily diffusible flakes. From this, therefore, it follows that, to render the milk of the cow similar in its constituents to that of the mare, we have, first, to increase the amount of milk-sugar; secondly, to decrease and modify the caseine. I do this as follows: to a given quantity of milk I add four per cent. of milk-sugar; take one-third of the milk, precipitate from it the caseine, and add the resulting whey to the milk I had taken it from; then, to make with this the kumyss, I add a proper ferment, and during the coagulation of the caseine the fermenting mass is constantly kept in a state of agitation, which breaks up the caseine and leaves it in the condition which it presents in the milk of the non-ruminant animals. I can say, for this preparation, that those who have been acquainted, by experience, with the Russian kumyss, declare that it is identical with the latter in all respects, except in the creosote odor which the Russian product derives from the smoke-stained skins in which it is manufactured and preserved.

It is quite needless for me to cite in detail cases illustrative of the benefits of kumyss as a food. In cases occurring where defective nutrition is a predominant feature, kumyss, with the exception of one or two isolated instances, has never failed in improving nutrition.

Mount Vernon, N. Y.

## CARBOLIZED CATGUT SUTURES FOR LACERATIONS OF THE CERVIX UTERI.

By A. REEVES JACKSON, A.M., M.D.,

Chicago, Ill.

During the past six years I have used as suture material, in the operation for the repair of lacerations of the cervix uteri, silver wire, silk, gut of the silk-worm, and carbolized catgut. As a result of this experience, I can confidently recommend the latter substance as being far superior to either of the others for the purpose indicated.

In my earlier operations I employed silver wire exclusively, and the results were wholly satisfactory so far as maintenance of coaptation of the parts and freedom from irritation were concerned. It had this drawback, however, to its usefulness—a second operation was always necessary for the purpose of removing the stitches. This involved the aid of one or two assistants, the procedure was attended by more or less pain, and was frequently dreaded by the patient almost as greatly as the original operation.

I next tried silk. This I found to be more manageable than wire, and I was enabled by its use to complete the operation more quickly. With the exception that it produced some slight and unimportant ulceration at the places of the sutures, it gave equally good results with the wire, and its removal was attended by less pain.

But I wanted something that would obviate the need for the secondary use of scissors and forceps, and in my quest I was deluded by the beauty of the silk-worm gut, and the hope that, being an animal substance, it might dissolve and disappear without assistance. But it did not. In one instance I permitted it to remain nearly four weeks, at the end of which time it appeared to have undergone no change, and I removed it as though it were wire. It was as easily adjusted as silk, and as capable of being firmly knotted, while, at the same time, it produced no more irritation than wire; but it presented no material advantage over either of those substances.

Finally, I ventured to try catgut; not wholly, at first, for I feared that, from its well-known solubility when imbedded in the tissues and fluids of the body, it might not retain the parts in apposition sufficiently long for union to take place. I therefore placed the animal sutures alternately with others of wire. On removing the latter, on the tenth day after operation, I could find no trace of the gut threads. Union was perfect. Subsequently, in another case, I used wire on one side and catgut on the other. On the eighth day following, I discovered only a few softened shreds of the latter. The union of the parts was equally complete on either side, and there was less appearance of redness on the side which had been closed with the catgut than on the other in which silver was used.

Latterly—for more than a year—I have been using catgut almost exclusively; and in no instance has it failed to hold the denuded surfaces together until firm adhesion has occurred. Having performed this function, it melts away and disappears, giving no trouble either to patient or surgeon.

But, in order to obtain such desirable result, I would caution the inexperienced operator that great care must be taken in paring the flaps. This must be done in such direction, and to such extent, as to permit the opposing surfaces to be brought *very easily* together; otherwise, the resulting swelling will cause any suture to "cut" more or less, and failure may ensue.

By immersing the catgut in warm water a few minutes before using it, it becomes almost as pliable as silk and can be as readily tied. I always make a triple knot.

While I consider the use of catgut as superior for the suture to either wire or silk in all ordinary cases of lacerated cervix, it is especially indicated in those in which repair of the torn perineum is likewise required; for both operations can then be done at the same time without making occasion for jeopardizing the new perineal adhesions by putting them on the stretch for the purpose of removing the stitches from the cervix. In the use of wire or silk we must either do this, or accept the alternative of waiting several weeks for the perineal structures to safely bear such strain; a delay obviously objectionable, especially to the patient.

271 Michigan Avenue.

Homœopathy and Babies.—"Have you seen my daughter's new baby?" asked a proud grandmother of her neighbor. "Yes, it is a handsome baby—but how very small it is!" "Oh, that's not surprising. The doctor who attended her was a homœopathist."

## LARYNGEAL GROWTHS.

By WHITFIELD WARD, A.M., M.D.,

PHYSICIAN TO THE METROPOLITAN THROAT HOSPITAL, NEW YORK.

Among the great variety of cases constantly presenting themselves to the special worker, none afford more interest than those of laryngeal neoplasm, and although these tumors are not infrequently met with by the laryngoscopist, they are so rarely seen by the busy general practitioner that their occasional illustration will be of sufficient interest to warrant publication. Of the several varieties of laryngeal growths, the papillomatous furnishes fully nine-tenths of the whole number, the remaining portion being represented by the epitheliomatous, the fibromatous, the sarcomatous, etc. The principal points of interest regarding interlaryngeal formations are three-fold: *First*, the nature of the tumor; *second*, its size; and, *lastly*, its location and attachments. The papilloma can nearly always be easily diagnosed by the skilled examiner, while the differentiation of several of the other types frequently puzzles the expert microscopist. The size of a laryngeal growth will vary from that of a pin's head to that of a mass almost completely blocking up the cavity of the organ. These tumors may likewise be located in any part of the larynx, their favorite site being in the immediate vicinity of the vocal cords. The principal symptoms occasioned by this type of larnygeal disease are: impairment of the voice, either speaking or singing, or both, and interference with respiratory action. At the present advanced state of the science of laryngology no one would think of removing a laryngeal neoplasm other than *per vias naturales*, unless there was eminent danger of strangulation, or the extent of the mass be so great as to prevent the possibility of its extraction *per orem*.

For the performance of this operation several instruments have been devised, the laryngeal forceps of Mackenzie of London, however, taking precedence. Within the past four months I have used a hitherto disregarded instrument, which, with several important alterations, has done good service; but of this more anon. Generally speaking, several sittings are necessary to the complete extirpation of a laryngeal growth, although it will not infrequently happen that a single introduction of the forceps will suffice. Although much has been said, pro and con, regarding the evulsion of laryngeal tumors by means of instruments introduced into the organ itself through the mouth, it has been quite fully established by laryngoscopists that this operation should always be performed when practicable. There need be no bad secondary effects if ordinary precaution be exercised by the operator, and a few simple rules be observed. In the first place, the forceps should not be introduced too frequently at a single sitting; in the second place, too much force should not be used during traction; again, a sufficient interval should be allowed to intervene between the sittings, to insure the subsidence of whatever inflammation may have been occasioned by the laryngeal manipulations; and lastly, the operator must, in every instance, be guided by good judgment and common sense. Subjoined will be found a quartette of interesting cases selected from a number operated upon, both in hospital and private practice.

Case I.—J. M——, a German, aged eighteen, applied for treatment at the Metropolitan Throat Hospital, in September, 1878, complaining of hoarseness and impaired breathing. Upon laryngeal examination, a growth was distinctly seen located on the superior surface of the left vocal cord. The tumor was of the papillomatous variety, and covered nearly the entire body.

In the evulsion of the above mass a pair of Mackenzie's antero-posterior forceps were used, several operations being necessary to its complete extraction, owing not only to the close proximity of the vocal body—the growth requiring to be delicately picked from its surface—but also to the soft nature of the tumor, which allowed only that portion caught in the mouth of the instrument to be removed. The entire operation necessitated some five or six sittings, the mass being completely removed. Two years subsequent to the treatment a laryngeal examination revealed not the slightest trace of its existence. As a result of the operation, voice was completely restored, both as regards singing and speaking, the boy being enabled to resume his connections with a German singing society of which he had been formerly a member.

Case II.—Joseph Y——, aged forty-five, consulted me at the Metropolitan Throat Hospital, in February, 1879, complaining of hoarseness and cough, the latter symptom being of a very distressing nature, and at times spasmodic. Upon laryngoscopic examination, the mouth-mirror plainly revealed a large mass occupying the central portion of the cavity of the larynx, which was attached by a distinct pedicle to the superior surface of the right vocal cord, the remaining portion, the body, being free.

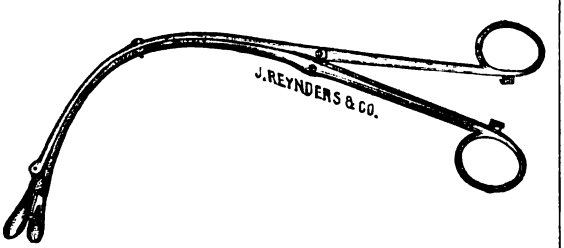
During quiet respiration the neoplasm hung suspended between the vocal cords, extending some little distance below these bodies. When, however, phonation was indulged in, its position was somewhat altered, being forced upward by the adduction or coming together of the vocal bands. In the extraction of this tumor the same instrument was employed as in Case I. a single introduction of the forceps being sufficient for its complete removal. In the performance of the operation advantage was taken of the peculiar movements of the growth during phonation, described above, and, when the instrument was *in situ*, the patient was requested to say Ah! which forced the neoplasm into the jaws of the forceps waiting invitingly open to receive it.

Case III.—Mrs. McM——, a widow, aged fifty, applied for treatment to the Metropolitan Throat Hospital, in March, 1879, complaining of hoarseness, which was of a degree bordering on complete aphonia, and impaired breathing, which was extremely difficult and labored. She had, besides, a very distressing cough. Upon laryngeal inspection three small polypi were discovered attached to the vocal cords, two on the left, and the remaining one on the right body. During adduction these tumors interlocked with one another, which added considerably to the interest of the case. Owing to the extreme weakness of the patient, from the constant interference with respiration, she being unable to walk one-half of a square without halting for rest, I had considerable difficulty in persuading her to undergo an operation; but, after describing the gravity of the condition, my patient finally consented. In the extraction of these tumors the same instrument was used as in the two cases recorded above, a greater number of sittings, however, being required—twelve in all—not only on account of the weakened condition of the patient, but also owing to the extreme sensitiveness of the larynx and neighboring soft

parts. The treatment of the case was pre-eminently satisfactory, not only to myself, but also to the sufferer, the growths being entirely removed, and the difficulties of respiration for the most part overcome, the patient being able to walk a considerable distance without fatigue. The above case is the only one among the number operated upon in which any untoward result followed the introduction of the laryngeal forceps, one of the sittings being productive of a considerable amount of œdematous swelling in the larynx, which caused a great deal of alarm to the patient, but happily the tumefaction was subdued in a few hours by the constant inhalation of benzoin vapor.

CASE IV.—Mr. M——, aged thirty, consulted me at my office, in May, 1881, at the suggestion of his family physician, Dr. Wood. This case, which is by far the most interesting of all, presented the same general symptoms as those already tabulated, viz.: impairment of the voice, obstruction to respiratory action, and cough—the difficulty of breathing being the most prominent. Upon laryngoscopic examination a large mass was plainly seen occupying the left side of the larynx, immediately above the left vocal body, which was removed without any special difficulty, by means of Mackenzie's forceps. Upon making an exploration of the parts, several days subsequent to the above operation, I was greatly surprised to see a second growth subjacent to the cords, and occupying the left side of the windpipe, which neoplasm was not attached to the under-surface of the vocal band, but to the laryngeal wall, at a short distance from the cord.

Immediately resuming operations with the instrument used in the first instance, I endeavored to extract this second tumor; but, after several ineffectual attempts to grasp the growth, I was obliged to abandon this style of forceps, on account of my not being able to introduce it far enough down in the larynx. Upon searching through the various instrument stores of this city, I discovered a French forceps, which, I thought, with several alterations, would answer the requirements of this particular case, and communicating my ideas to J. Reynders & Co., the subjoined instrument was constructed, which served my purpose admirably, every visible portion of the tumor being easily removed.




In favor of the forceps depicted above, several strong points can be advanced:

*First.*—On account of its peculiar mechanical action it can be introduced to a considerable distance below the vocal cords, with extreme ease.

*Second.*—Although much finer in construction than the generality of laryngeal forceps, it is exceedingly powerful.

*Third.*—Its jaws opening only at the extremity, there is less liability of impinging the neighboring structures.

Since the last-mentioned operation I have had occasion to use this instrument in the case of a small polyp, located on the inter-arytenoid membrane, and it acted so satisfactorily that I do not hesitate to recommend it for the evulsion of growths situated above as well as below the glottis.

339 WEST TWENTY-THIRD STREET.

## A CASE OF CEREBRAL HEMORRHAGE RESULTING IN "ALTERNATING" OR "CROSSED" PARALYSIS—EXTRAVASATION OF BLOOD INTO THE PONS VAROLII.

BY TALBOT JONES, M.D.,

ST. PAUL, MINN.

THERE has recently fallen under my observation in this city, a case of cerebral hemorrhage, resulting in hemiplegia, so instructive in the lessons it conveyed as regards localization in brain disease; so unusual in its mode of outset; pursuing such an anomalous course; producing such an infrequent chain of objective symptoms; and, inferentially, occurring in such an unusual situation, or centre of the cerebral mass, that I have determined to place it upon record. Localization of brain lesions has been, during the last decade, largely studied, and there have been positive advances made in the subject which still continues to engross the attention of the medical profession. Our increased knowledge is due to investigations in morbid anatomy and experimental physiology, and largely as a result of clinical observation. The important investigations made by Fritsch and Hitzig in 1870, by electrization of the cerebral hemispheres in the lower animals, gave results of capital importance. These experiments, which at once attracted great attention to the subject, were quickly followed by those of Ferrier, though the latter's were far more comprehensive in their details and valuable in their results.* A score or more of earnest investigators soon began to labor in the same field, and the result of the investigations of Broca, Hughlings Jackson, Schiff, Vulpian, Sanderson, Bouchard, and others, are now well known to the scientific world. In the investigation of cerebral localization, however, it soon became apparent to those making the experiments, that a much larger amount of clinical material than was available, would be needed ere positive deductions could be drawn, or generalization made as to the site of the hemorrhage, from given objective symptoms in the patient.

Indeed, the most serious drawback to the full elucidation of the difficult problem of cerebral localization, in so far as it relates to determining the site of blood extravasation in given portions of the brain, has been due either to an indifference or failure on the part of physicians to report their cases.

It is, of course, highly desirable, when called to a case of apoplexy, to be able at once to determine, with reasonable certainty, that portion of the brain which is the seat of the lesion: whether it be in the sensory or motor track; whether it be cerebral or meningeal; whether or not the extravasation has broken through into the lateral ventricles; or if the effusion be in the corpus striatum, pons Varolii, cerebellum, or medulla. Owing to the advances made during the last decade, in localizing cerebral lesions, much light has been thrown upon what has heretofore been a comparatively obscure subject,

* Ferrier on the Functions of the Brain. 1876.

and we are at the present time enabled to predict, with much more certainty, what particular portion of the nervous mass has suffered from characteristic symptoms which follow the injury of each. Still, much remains to be learnt—clinical observation should be made to replace inferential reasoning. While this is true, it is equally true that there is oftentimes observed, as a result of cerebral apoplexy, certain symptoms, or even groups of symptoms, highly characteristic of this general condition, yet which afford no positive clue to the site of the injury, which is ascertained only by a post-mortem examination. It is not only desirable, but is the duty of observers, to put upon record every case of cerebral hemorrhage occurring in an unusual situation.

It is possible that a recognition of this obligation induced Moxon to record ("Path. Soc. Trans." 1869–70) a case of paralysis of the facial nerve from hemorrhage into the aqueductus Fallopii; and Hughlings Jackson to report a case of blood extravasation into the pons Varolii (*Reports to the London Hospital*, vol. i., 1864).

Numerous other instances could be cited where eminent observers have reported cases of hemorrhage in unusual situations. The following case is given in the hope that it may aid, however so slightly, a diagnosis of cerebral hemorrhage in a location where it indeed rarely occurs.

Mrs. J. W. R——, fifty-nine years of age, a native of England, resided in Illinois, formerly of Pittsburg, was one of the numerous peripatetic dwellers of Minnesota, having come hither to escape her annual plague—hay fever. She moved in the higher walks of life, was gifted and accomplished. Two years ago, while in Alleghany, she experienced, suddenly, some difficulty with her tongue, which disappeared in one week. It was diagnosed paralysis by the attending physician.

About one year subsequently she suffered an attack of apoplexy, followed by unilateral hemiplegia on the left side, from which, however, she partially recovered. About six weeks ago, while visiting in St. Cloud, Minn., she was prostrated by the third attack of apoplexy, followed by a loss of consciousness and right hemiplegia. She was attended by Dr. A. O. Gilman, of that city. The extravasation had evidently occurred high up in the motor zone, since sensation was unimpaired, and there resulted no injury to the cranial nerves. She remained there for several weeks, but the improvement in her paralysis was very slight. Starting homeward, with her husband's assistance, she reached this city on Sunday morning, October 9th, stopping at the Sherman House, where I was called to see her at 5 o'clock P.M. I found the patient with a flushed face, and breathing stertorously. Her pulse was slow and full. Temperature in the axilla, 97° F. There was lateral deviation both of the head and the eyes, both being inclined to the left side—the side of the brain-lesion—the non-paralyzed side.

Her eyes were open, and with an unmeaning stare were kept fixedly upon one spot. They could not be made to follow the movements of the hand, when this was moved laterally before them. The pupils were neither dilated nor contracted, and responded sluggishly to light. The unconciousness was rather profound, as there was no intelligent response when the patient was loudly spoken to, or attempts made to arouse her. There was complete *right* hemiplegia, but strong irritation induced slight reflex movements in the paralyzed limbs. In raising the arm, and allowing it to drop, it fell, at the side of the body, inanimate.

Deglutition, however, could be performed, and liquids were swallowed when placed in the back part of the pharynx. The muscles of the face on the side corresponding with the lesion, and *opposite* the hemiplegic side of the body, were palsied and powerless, and the countenance on that side bore a characteristic vacant look from the absence of all expression. The angle of the mouth was drawn lower, and the paralyzed half of the mouth looked longer than that of the sound side. The muscles affected were those of expression, innervated by the seventh nerve.

The breathing was laborious and noisy, the cheek in each moving expiration being puffed out with a sort of explosive sound.

The patient it seems had been comfortable in the morning, and had partaken of rather a hearty meal at one o'clock P.M. Shortly after she began to gape, and there was observed in her a desire for sleep. An increasing drowsiness was noticed, and the patient glided gradually into unconsciousness, the coma being rather profound. There was an entire absence of a convulsion, of pain in the head, vomiting, nausea, giddiness, weakness of the limbs, or, indeed, any prodromal symptoms.

The difficult problem of diagnosis now presented itself. The coma of alcohol and narcotic poisons were readily excluded. To differentiate from the coma of uræmia: This state was not preceded by a convulsion, and the exceptional instances where this is not the case are very few indeed (Da Costa). But, in addition, there was no history of renal disease; no puffiness of the eyelids nor swollen condition of the ankles. The urine, which was passed in napkins, was not examined for albumen or casts.

Syncope, asphyxia, and cerebral hysteria, after a careful consideration of each, were excluded.

The symptoms observed were similar to those produced by acute softening, obstruction of the cerebral arteries, and the so-called serous apoplexy (œdema of the brain). Rostan tells us that one half of his cases of acute softening occurred suddenly, and the symptoms noted were precisely the same as those produced by clot. Indeed the symptoms following acute softening so closely resemble those of apoplexy, that a differential diagnosis is often impossible. The state of the patient's arteries, however, furnished valuable information with regard to differential diagnosis. As before stated, her pulse was slow, but strong; the arteries were rigid and hard, feeling like a rod of metal under the finger. There evidently existed a condition of wide-spread arterial degeneration. It should be remembered that she had on three previous occasions suffered attacks of paralysis, presumably due to the rupture of minute miliary aneurisms, "for recent researches have rendered it likely that the extravasation of blood is always due to the same immediate cause—to rupture of miliary aneurisms on the minute arteries, which are constantly found to be diseased" (Charcot: *Arch. de Physiol.*, 1868). Arguing this subject of differential diagnosis, J. Hughlings Jackson, after an able process of reasoning remarks: "If the patient have tough arteries, if deep coma has occurred suddenly or quickly, with one-sided symptoms of any kind, it points at least to intra-cranial, if not cerebral hemorrhage, in the vast majority of patients past middle age." These facts, and others that need not be mentioned, were fair presumptive evidence that the causation was not from softening, and the etiology

should be looked for elsewhere. The mode of onset being rather slow, and not of abrupt origin, sufficed to differentiate it from embolism. This opinion was strengthened, and amounted to a positive conviction, when, after a careful cardiac examination, no valvular disease could be detected, nor any history furnished of prior rheumatic endocarditis. (Resonance on percussing the chest was vasiculo-tympanitic in quality, while auscultation revealed sibilant and a few sonorous râles widely distributed.) With regard to the rapid effusion of serum (serous apoplexy) the difficulty of distinction was, if possible, even greater still. However, the previous history of brittle arteries, the age of the patient, the course the case subsequently pursued, together with the absence of certain symptoms which are supposed to denote the effusion of serum, were deemed fairly sufficient to exclude it. The symptoms referred to are pallor of the face, feebleness of the pulse, and an "increased secretion from the mouth and eyes" (Durand Fardel). In comparatively rare cases only does pressure upon the brain result from turgescence of the vessels, or from an effusion of serum (Da Costa).

The etiology of this apoplexy, or hemiplegia, which the latter derivatively signifies, was, however, a far less interesting study than the seat or situation of the lesion. The question arose: Can the seat and extent of the lesion be ascertained by the symptoms? In attempting to answer this question, a knowledge of cerebral localization alone could be relied upon. It need scarcely be said that, in the vast majority of cases of cerebral hemorrhage, the location is either in the optic thalamus or corpus striatum; next in frequency in the gray matter of the convolutions, rarely in the cerebellum, and less frequently of all in the pons Varolii and medulla. The hemorrhage in this case evidently was not meningeal, as the latter rarely gives rise to hemiplegia, and besides there was no rigidity of the muscles of the extremities.

A blood extravasation high up in the motor or sensory zones, as the optic thalamus or corpus striatum, would in this case leave unexplained the facial paralysis on the side opposite the hemiplegia, so the lesion could have its seat in neither of these centres. The lateral ventricles were not invaded, else formidable symptoms of profound coma and tonic alternating with clonic spasms of the muscles, would have developed. Hemorrhage into the crura cerebri, cerebellum, and medulla, give rise to symptoms sufficiently characteristic of each, yet a lesion in neither of these centres produces facial palsy. Gubler, indeed, has reported a case of cerebellar hemorrhage followed by facial paralysis on the side corresponding to the clot, but an immense preponderance of opinion is opposed to this view. It appears paradoxical that this same author should in another paper (*Gaz. Hebdom.*, 1858) make the statement, without qualification, "that hemorrhage into one-half of the pons gives rises to palsy of the extremities of one side and of the face on the other."

Moxon's case,* where facial palsy followed an extravasation into the aqueductus Fallopii, is readily understood when we remember that the aqueductus Fallopii is a groove for the passage of the portio dura nerve.

These cases are the only exceptions I am aware of to that rule, that hemiplegia upon one side and facial paralysis on the other is due to a lesion of the pons Varolii. Upon this question the information gained from a study of morbid anatomy and experimental physiology is in perfect accord with that of clinical observation.

When paralysis of the face occurs on the opposite side to that of the body, it may be inferred that the disease has affected the cranial nerve in a part of its course before decussation has taken place; and pathological observations support this view, unilateral disease of the pons Varolii causing paralysis of the same side of the face as the disease, and the opposite side to the paralysis of the limbs (Foster: "A Text Book of Physiology"). It is probable (Cf. Baleghian: Eckhard's "Beiträge," 1878) that the decussation which begins in the spinal cord, is gradually completed as the impulses pass through the medulla and pons Varolii.

For a full and exhaustive study of the symptoms following disease of the pons Varolii, see Lockhart Clarke's papers ("Phil. Trans.," 1868) and Brown-Séquard's lectures published in the *Lancet*, 1861, vol. ii. Assuming then that my patient's apoplexy was due to cerebral hemorrhage, and that the location of the hemorrhage was in the pons Varolii, was there any means of ascertaining in which one of the different levels in this nervous centre the extravasation occurred? J. Hughlings Jackson, in his able article on cerebral hemorrhage and apoplexy in Reynolds' "System of Medicine," learnedly discusses this very question, and sheds so much light upon the subject, that I believe an affirmative answer to the question possible. This author, in stating a hypothetical case, almost perfectly described my patient's symptoms. He says: 1st. "A lesion in the *lower* part of the pons, on the left side, will catch the fibres of the left facial nerve before its decussation, and will also involve the fibres from the right limbs, which have crossed lower down in the medulla. There is then palsy of the left side of the face on the side of the lesion, and of the arm and leg on the right, the side opposite the lesion." 2d. "A lesion in the *upper* part of the pons (Brown-Séquard) may destroy the fibres of the right facial nerve, which have crossed in the pons, and will also involve the fibres for the right limbs. Here then the facial paralysis will be on the side opposite the lesion, and therefore on the same side as the palsy of the arm and leg." 3d. "Lastly, Brown-Séquard points out that a lesion in the *middle* of the pons will catch the fibres of the left facial nerve *before* its decussation, and those of the right *after* its decussation. Then the face is palsied on both sides from lesion of the left half of the pons, and the arm and leg on the right."

If the foregoing explanation be correct, and there is scarcely room to doubt that it is so, the lesion in my case was located in the lowest level in the pons, and on the left side. A lesion in such a site in the brain must be of rare occurrence indeed; but this is of scarcely more interest than the subsequent clinical history of the case. The coma, the stertorous breathing, the lateral deviation of the head and eyes, and the unilateral paralysis of the face-muscles, which were first observed at five o'clock P.M., showed no signs of improvement six hours later, when the patient was again seen. The forebodings were gloomy, and an unfavorable prognosis given. The following morning found the patient in much the same condition; the pulse was still strong, full, and regular, the coma persistent, and the temperature remained at 97° F. The day following the symptoms were the same, save that the temperature had risen slightly—marking 98° F.

* Op. cit.

Space forbids my giving the daily clinical symptoms in detail, full notes of which I preserve, so it may suffice to say that all the foregoing symptoms remained much the same in kind, not intensified in degree, until the following Thursday noon, when, for a brief period of time, the patient's condition denoted an improvement. Her pulse, in the meantime controlled by cardiac sedatives, was 96° F. Temperature 99⅘° F. She partly aroused from her comatose state, and became semi-conscious; protruded her tongue, which inclined to the left side, when loudly commanded to do so. Her eyes now followed persons moving about in the room, or the hand when placed before them. When asked by her son if she recognized him, she said "Yes," and smiled.

In smiling or speaking, the full extent of the facial palsy was well shown. During these acts, owing to a loss of antagonism of the sound-side muscles, the symptoms of palsy were much exaggerated. The improvement was of but short duration. She soon lapsed into her former condition and remained so until Sunday evening, when a decided change for the worse was noticed. Her pulse was now feeble and intermittent; her breathing, still stertorous in character, became more rapid and shallow, while her temperature registered 101⅘° F. Bourneville has shown that there is, in these cases, a rapid rise in temperature just preceding death, but in this instance I could not confirm his statement, as I was not present at her death, which occurred at 2 A.M. Monday. The length of her illness was seven and one-half days. An autopsy was refused, which, for obvious reasons, I was extremely anxious to make.

I have a natural diffidence in reporting this case, for "when hemorrhage has taken place in the pons, the diagnosis is very difficult" (Da Costa), and the diagnosis made during life, in this instance, could not be verified by a post-mortem examination. By way of justification, however, I may plead that if the opinions formed were correct, it is but right and proper to report it, as a slight means of aiding subsequent observers in their diagnosis of hemorrhage into a very unusual centre in the brain; and if wrong it can be quickly corrected, and the error pointed out by those whom large experience or special study render competent to undertake the task.

By way of summary, it may be said that the features, both interesting and unusual in the case, were these:

*First.*—The location or site of the lesion.

*Second.*—An entire absence of prodromes, save that of drowsiness and gaping. The abruptness of an attack of apoplexy is implied in the name. To that generally accepted opinion, that there are usually some signs of an impending attack, Trousseau excepts cases of hemorrhage into the pons Varolii; but even in cases of hemorrhage into the pons there are, according to Hughlings Jackson, some symptoms before the loss of consciousness. This view, which at present generally obtains, is, however, at variance with that of Rocheaux, who analyzed sixty-three cases of hemorrhage occurring in different centres of the cerebrum, and found prodromes present in only nine.

*Third.*—The very deliberate mode of onset. Yet Abercrombie informs us that these gradual cases are more dangerous than those of abrupt origin, and Hughlings Jackson says "coma from effusion of blood into the pons Varolii will, it is true, come on deliberately, but not so deliberately as opium-poisoning." My own idea is that in this case there was a small extravasation of blood in the left half of the pons, in its lowest level, and that the extravasation occurred slowly.

*Fourth.*—Absence of convulsions of the epileptiform variety, "which, with coincident unconsciousness, usually signifies large hemorrhage, or hemorrhage into the pons or medulla" (Bartholow).

*Fifth.*—The fact that the lateral deviation of the eyes were *toward* the brain lesion, and opposite the hemiplegic side. Bastian ("Paralysis from Brain Disease") says that in a lesion of the pons there is an exception to the rule that the lateral deviation of the eyes, so frequently present in apoplexy, is *toward* the side of the brain affection. I merely note the exception to Bastian's rule in my case, without attempting its explanation, for of the cause I am ignorant.

*Sixth.*—The pupils were not contracted, and it is contracted pupils that most authors describe as one of a chain of symptoms belonging to a lesion of the pons. J. Hughlings Jackson and Wilks (*Guy's Hospital Reports*, 1866) remark, however, that the state of the pupils are of little value as a means of diagnosis. The latter author says: "We cannot connect the condition of the pupils with any definite lesions, for their states are very variable, and liable to be influenced by very slight causes;" and Jackson remarks: "I have not yet seen minute contraction of the pupil on one side from clot in the pons, where there has been coma."

*Seventh.*—But by far the most remarkable feature of the case was the prolonged state of coma. With the exception of a lucid or semi-conscious period, lasting for a few hours only, she remained unconscious continuously for a space of seven and one half days. I have thus far searched literature in vain for a counterpart of the case.

Hemorrhage into the pons or medulla is very fatal—from fifteen minutes to several hours (Bartholow). This is the generally accepted view. I see but one explanation of this, that is to assume that the hemorrhage was slow, and the resultant clot small in size.

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A Bad Case of Globus.—Dr. Myers, of Patterson, N. J., was recently summoned in great haste, at midnight, to see a woman who was suffering the most excruciating agonies from having swallowed a set of false upper teeth, sixteen in number. Several women were about her, who had been called in to help her. Anodynes were administered to relieve her temporarily. Dr. Myers then closely scrutinized her mouth and throat, but could find no evidence of laceration. Moreover, she could swallow readily. He suggested that the teeth might have been mislaid, but this was indignantly scouted by the attendants, who declared that they had searched the house from top to bottom. A further search under the pillow failed to disclose the missing property, and the case began to look serious, as the poor woman declared that she could not stand it any longer, as she felt the edge of the teeth cutting into the sides of her stomach. Finally, at the suggestion of the doctor, the inside of one of the pillow-cases was examined, and there the teeth were found, perfectly safe and harmless. The patient, who had a moment before been suffering from the laceration of the teeth "against the edges of her stomach," recovered instantly, and the doctor was promptly dismissed.

Dr. F. E. Beckwith, having been elected Professor of Obstetrics and Diseases of Children in the Medical Department of Yale College, has removed to New Haven, Conn.

# Reports of Hospitals.

## HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA, PA..

SERVICE OF D. HAYES AGNEW, M.D.

### CLINICAL REMARKS ON LITHOTOMY IN CHILDREN, AND ITS COMPLICATIONS.

THIS boy is six years of age. He was brought into the house a few days ago suffering from intense vesical irritation; he had frequent micturition, and every few minutes passed water. He had pain especially toward the end of the act, as the bladder became emptied. At this time he would always have the disposition to grasp the prepuce, and pull, to get relief. These symptoms are so characteristic that you will say at once that, in all probability, there is a stone in the bladder. These signs alone, however, will not be sufficient to justify an operation. There are a great many bladder and kidney troubles in which the patient has pain similar to what we find in this case. There may be the same frequency of micturition and pain, and there may be the same disposition to pull at the prepuce. But why does the patient complain of pain at the end of micturition? It is due to the bladder contracting on the stone.

It is quite common for persons suffering from urinary calculus to have occasionally acute attacks of vesical irritation—"fits of stone," as they are sometimes called—after exposure to cold or unusual exercise; as, for instance, riding over rough roads, causing the foreign body to be rolled about in the bladder.

To determine absolutely the presence of stone, a sound should be introduced into the bladder in the same manner as introducing a catheter. Usually, the concretion is felt as soon as the instrument enters the bladder; but if not, the sound should be turned around and moved in different directions. To hear the sound produced by the contact of the instrument with the calculus is more important, in a diagnostic point of view, than simply to feel the stone. By attaching this sounding board to the sound, the clink can be rendered audible over this large room.

In operating for calculus in children, we always employ lithotomy. The mortality after the operation is very small indeed. The size of the urethra of children is not suited for the operation of lithotrity.

The preliminary treatment consists in keeping the patient quiet for a few days, regulating his diet, and seeing that the bowels are freely opened. The rectum should be emptied, by an injection, about two hours before the operation, using for this purpose a little soap and water. The table to be used should be firm and narrow; such a one as may be found in any country kitchen.

Before proceeding to the operation introduce the sound, and satisfy yourself *at the time* that the stone is present; if unsuccessful in detecting the calculus, it is safer to defer the operation. You can all hear the sound produced as the instrument strikes the stone.

There are several methods of performing lithotomy; we have the lateral, bilateral, median, and suprapubic operations. In lateral lithotomy the line of incision is on the left side of the perineum, extending inward and through the prostate gland and the neck of the bladder. In bilateral lithotomy a semilunar incision is made from one ischiorectal space to the other, across the perineum, about three-fourths of an inch in front of the anus. In median lithotomy the incision is made in the middle of the perineum. In the suprapubic method the incision is vertical, and just above the symphysis pubis.

In the lateral operation the incision, beginning three-fourths of an inch in front of the anus, and on the left side of the raphe, is carried downward and outward to a point midway between the anus and tuber ischii, dividing, as it is deepened, the integument, superficial fascia, middle perineal and transverse perineal muscles with its accompanying artery. Farther inward the knife enters the space between the accelerator-urinæ and erector-penis muscles, and divides the deep perineal fascia or triangular ligament with the compressor-urethra muscle, the membranous and prostatic portions of the urethra and the prostate body.

While the incision is being made the finger must press the rectum away from the knife. After opening the bladder the finger is introduced into the viscus and the staff withdrawn. The forceps are now conducted along the finger into the bladder, and the stone delivered.

After the extraction of the calculus we wash out the bladder, so that no *débris* shall be allowed to remain and become the nucleus for another concretion. Looking to the bleeding, we see that the transverse perineal is the only artery cut, and the hemorrhage from this source has entirely stopped.

The subsequent treatment consists in placing the child in bed, keeping him quiet, and giving him nothing but milk for three or four days; the bowels should be kept quiet for at least three or four days, administering, if necessary, two or three drops of laudanum for this purpose. For the first two or three days the water usually escapes freely through the wound. After this, for some period, it will flow through the urethra, owing to an inflammatory swelling closing the cut. Two or three days after that, it resumes the channel made by the knife, continuing to flow in this way until the wound is gradually closed by granulation, and the urine follows its natural channel through the urethra.

It requires, as a rule, from three to four weeks for recovery. In one case a child was permitted to go out of the hospital in nine days. The lad upon whom I operated about a month ago was discharged three weeks after the operation.

There are several accidents that may happen during lithotomy. One of the most common of these is failure to enter the bladder. It is more likely to happen in operating upon children. If the opening into the urethra has not been made sufficiently free, the finger, and sometimes even the forceps, may glide into the recto-vesical space, the fascia of which is quite loose and unresisting. This accident is unfortunate, and quite likely to be followed by infiltration and fatal pelvic inflammation. On the other hand, if you incise the prostate and neck of the bladder too freely, it is possible to miss the prostate altogether, and penetrate the bladder posterior to the prostate body. Children have very small prostates, and the knife must be used with precision. If the stone is of unusual size, and yet not altogether too large, it will be best to enlarge the opening in the prostate; the cut may be made with a blunt-pointed bistoury. I am opposed to tearing, which

some advocate; if, however, the prostate be divided by two incisions through the lateral portions of the gland, so that a triangular flap is produced, the opening will allow of the passage of a very large calculus.

The complication of hemorrhage is not a frequent one. Although the transverse perineal artery is divided at every operation, yet this vessel, in most cases, closes spontaneously, and rarely needs a ligature. The artery of the bulb, however, is necessarily very much exposed. In order to avoid this vessel, after making first a free incision, I work backward rather than anteriorly, being careful not to carry the knife too far forward. The internal pudic has also, on some occasions, been wounded. Unless the knife is greatly lateralized there is no danger of wounding this vessel. There may also be a free bleeding from the neck of the bladder, the source of which is the prostatic plexus of veins, which you know are large and tortuous. When a case of this kind occurs how are you to manage it? You do not expect to tie the vessels. Introduce a soft catheter through the incision into the bladder, and pack the wound firmly with a long strip of lint. This should be removed in from twenty-four to thirty-six hours. You may also control all hemorrhage by introducing a finger into the rectum, and pressing the bowel up against the pubic arch. But how long are you to keep it there? Perhaps by means of assistance you might be able to keep it up for many hours. This is a sovereign means of arresting hemorrhage, and was first practised by Dr. Kerr, a distinguished operater in China. He substituted pressure with the finger by packing the bowel with lint.

There is no excuse for a patient dying of hemorrhage after this operation when we have such ample means for its control. It may be necessary in some instances to ligate the internal pudic; this ligature is a difficult one, perhaps one of the most difficult in surgery. The vessel is large, and from it the artery of the bulb is given off. Here is an instrument consisting of a forceps and needle, devised by Physick for tying this vessel, but it is not at all suited to this purpose, nor have I ever seen any report of the artery being tied by means of it. The only instrument well adapted for this ligation is an instrument devised by Dr. Horner, and called Horner's awl. It consists of a strong curved needle like a shoemaker's awl, with a shoulder instead of an eye, near its extremity, and a strong handle; over the shoulder is looped the thread or ligature. After the needle, armed with the ligature, is passed underneath the vessel and emerges on the other side, the loop is disengaged from the shoulder of the instrument, which is then withdrawn and the thread tied. Ligation of this artery commands, of course, any bleeding from the artery of the bulb; it is impossible to avoid taking up with the vessel, the vein, and sometimes, also, the nerve. I know of no way in which you can prevent it. Twice I have tied the artery by this instrument without any difficulty.

NOTE.—The following week Prof. Agnew operated again before the class for vesical calculus, using the same method as in the previous case. The subject was twenty years of age, and had had symptoms of stone from childhood. Just before the incision was to have been made, the sphincter-ani became so completely relaxed from etherization that every expiration caused the rectum to be distinctly seen, and by the entrance of air to become distended. The operator waited until these effects of etherization disappeared. Prof. Agnew said that this was a complication, which he had never heard spoken of in connection with the operation, but one which it was very important to recognize.

November 5th.—The three cases of lithotomy alluded to above have progressed favorably without the slightest untoward symptom.

## Progress of Medical Science.

THE WEIGHT OF THE HUMAN BRAIN.—While house-physician to the municipal infirmary and hospital of Vienna, Pfleger made an interesting series of observations on the weight of the adult human brain and its component parts, studying also the relative capacity of the cranial cavity, both in sane and insane individuals, with reference to sex and the size of the body. The more important deductions as published in the *Wiener med. Blätter*, No. 27, 1881, may be given as follows: Between the ages of twenty and sixty years there is no variation of any consequence in the proportion which exists between the weight of the brain and the capacity of the corresponding cranium. The former shows a perceptible decrease between the ages of sixty and seventy, which becomes marked after this age. This is equally true of both sexes. The absolute weight of the brain increases, in general, proportionately with the length of the body and that of the trunk. An exception to this rule is found, however, in persons of very small stature; these have usually a brain heavier than individuals who are from ten to fifteen centimetres taller. The relative weight of the brain and its various parts diminishes with increase in the size of the body; this is particularly true of the cerebellum and cerebrum, less so of the brain as a whole, and of the cortex. The absolute increase in weight, which is associated with increasing size of the body, affects the different parts of the brain differently, only that of the cortex seeming to be constant. The cavity of the cranium in females is smaller, in comparison with the length of the body and of the trunk, than it is in males. The female brain, at the same time that it is absolutely lighter on an average than that of the male, is also lighter in comparison with the length of the body and that of the trunk. On comparing corresponding parts of the brain in the two sexes with one another, we find the weight of the cerebral cortex greater in the male than in the female, the same being true in a less degree of the cerebellum. The cortex is therefore both absolutely and relatively heavier in the male than in the female, while the cerebellum and also the ganglia are relatively heavier in the female.

The female brain, taken as a whole, is perhaps heavier, on an average, as compared with the capacity of the cranium; yet, even in this case, the weight of the cortex, as compared with the capacity of the cranium, is less in the female than in the male, while the opposite is true of the cerebellum and cerebrum, so that the above-mentioned overweight depends probably upon the relative preponderance of the cerebellum and cerebrum. In persons who have died of such acute diseases as produce the least atrophy of the brain, the difference in weight in the brains of the two sexes is the most marked, amounting to as much as fourteen per cent.

In persons, both sane and insane, who have died of chronic diseases, this difference in weight is less conspicuous (about ten per cent. in the sane and eight per cent. in the insane). The brains of insane males

taken as a whole, and also in their individual parts, suffer a greater loss in weight than those of females affected in the same way, this being true even when we leave out of consideration cases of paralysis, that prevail so much more extensively among men than women.—*Allgemeine med. Central-Zeitung*, July 13, 1881.

EMPHYSEMA OF THE EYELIDS AND OF THE ORBIT.—Dr. Baudry, of Lille, reaches the following conclusions (*Recueil d'Ophthalmologie*, August, 1881) concerning orbito-palpebral emphysema. The term spontaneous emphysema should be applied only to those rare cases in which the air in the nasal fossæ passes spontaneously into the areolæ of the orbito-palpebral cellular tissue, no effort at clearing the nose having been made. Emphysema in this location, which occurs after an effort at clearing the nose, or after sneezing, is the result, in most cases, of a fracture of one of the bones in the internal orbital wall, which permits the direct passage of air from the nasal fossæ into the cellular tissue of the eyelids and of the orbit. The emphysema will be limited to either the lids or the orbit, or may occupy both localities, according to the seat and extent of the fracture and to the varying pressure of the expired air. Under exceptional circumstances, the so-called spontaneous emphysema results from complete rupture of the lachrymo-nasal duct, produced by surgical traumatism. In this case osseous lesions may or may not be present. In still rarer cases the emphysema is attendant upon defective development of the parts in question.

VOLUMINOUS DERMOID CYST OF THE ABDOMEN.—Drs. Sewell and Miller report a case of voluminous cyst filled with solid matter, and occupying almost the whole of the abdomen. Upon post-mortem examination the growth was found to be so intimately united to the rectum and bladder that these organs seemed to form an integral part of its walls. Recent and old adhesions, due to peritonitis, united the cyst to various portions of the intestines. The other viscera were normal. Removed from the abdominal cavity, the cyst presented the shape of a flattened pear. The small extremity of the growth was situated between the bladder and the rectum. The dimensions of the cyst were as follows: length, 13 inches; width, 10 inches above and 4½ below; thickness, from 4 to 8 inches. Examined under water, small hairs were seen projecting across the opening of the cyst. The contents of the growth had a rancid odor, the aspect of a mixture of fat and hair, and the consistency of soap. At one extremity of the cyst the walls closely resembled the lower layers of the chorion of the skin; they contained glandular elements and capillary networks of blood-vessels and lymphatics. This resemblance was confirmed by microscopical examination, which revealed the presence of an epidermis and various layers of the derma with hair-follicles, of which some contained hair, a large number of sebaceous, but no sudoriparous glands. Chemical analysis showed the growth to be composed of 99.75 per cent. of fat and fatty acids. This is a very remarkable and rare specimen of a cyst developed in the abdomen of a man, and is probably unique in regard to its volume. Dr. Wilkes mentions an analogous case of dermoid cyst similarly located, occurring in a man aged twenty-one. Dr. Curling had occasion to treat this patient later, removing from the bladder a soft, phosphatic calculus, the centre of which was composed of small black hairs. Lebert reports ten observations of non-ovarian cysts found in deep parts of the body, and several cases are also alluded to by Blackman.—*Archives Générales de Médecine*, July, 1881; *Medico-Chirurgical Transactions*, Second Series, vol. xlv.

TREATMENT OF PLEURITIC EFFUSION.—From a discussion between Prof. Concato and Drs. Brambilla, Galignani, and Albertazzi, on the comparative merits of the induced current applied to the side of the effusions (Brambilla), and mechanical compression exercised upon the sound side (Concato), the happy conclusion may be drawn that both procedures have been attended with good results, contrary to the assertions of Ghinozzi, Orsi, Ballotta, and others.—*Recoglitore Medico*, July, 1881.

CASE OF SPONTANEOUS OSTEOMYELITIS—TREPHINING—RECOVERY WITH ANCHYLOSIS.—In the *St. Louis Clinical Record* of July, 1881, Dr. Bauer reports a case of spontaneous osteomyelitis seen in consultation with Dr. Briggs in May, 1880. The patient was a foreman in a smelting establishment, and without strumous or syphilitic history. Sudden exposure to cold after over-heating preceded the manifestations of the disease. After sustaining various plans of treatment, the man finally came under the care of Dr. Briggs in a condition of extreme prostration. Through proper attention to domestic hygiene and the comfort of the patient, combined with a rational general treatment, the case progressed favorably. With a view to relieve the still existing intraosseous pressure, and to hasten convalescence, Dr. Bauer advised trephining the affected femur, to which the attending physician and the patient consented. The operation was accordingly performed under anæsthesia by ether. One disc was removed about three inches above the external condyle of the femur, and an outlet thus established from the medullary cavity. The cortical substance of the bone proved to be of greater density and thickness than usual. Sero-plastic material exuded from this cavity, and the flow continued for several days. There was no reaction, and no untoward symptom following the operation. The patient stated that his pain was perceptibly lessened, and very soon the limb could be used without the customary aggravation. The wound closed by granulation. Ten days after the man was again at work, troubled only by anchylosis. According to Dr. Bauer, when the intraosseous pressure is at its height, which point it had already passed in this case, amelioration is immediate and much more marked.

TREATMENT OF CUTANEO-VENOUS ERECTILE TUMORS BY VACCINATION.—M. Paul's new procedure consists in covering the tumor with a layer of virus, and with the cutting needle tracing through the liquid superficial incisions; the latter subsequently become cicatricial lines opposing the extension of the tumor and the rupture of the vessels. At the situation of the erectile tumor, the layer of epidermis is extremely thin, consequently the incisions must be made very superficially and with great caution. To cut entirely through the skin would cause troublesome hemorrhage, and imperil the success of the inoculation. The exudation of a sanguinolent serosity is sufficient indication that the vessels are open, and absorption is possible. When the subcutaneous veins are excessively developed, thermo-cautery may subsequently be used to supplement vaccination. Dr. Paul also employs this procedure in ordinary vaccinations as superior to the methods

of introduction of virus by means of the lancet or needle; in the former instance, the operator may fail to introduce the virus at all; in the latter, the instrument may penetrate the subcutaneous cellular tissue and cause phlegmonous erysipelas. M. Paul has successfully treated four cases of erectile tumor by his procedure. M. Blot first scarifies and then covers the tumor with virus, but M. Paul contends that this gives rise to large and irregular pustules. —*Bull. de l'Acad. de Méd.*, 2me série, tome x., 1881.

On the Hypodermic Administration of Mercurials in Syphilis.—Guided by the counsels of Lewin in Berlin, Pick in Prague, and Sigmund in Vienna, Dr. Streitz has conducted a long series of experiments on the subcutaneous use of mercurials in syphilis, at the military hospital in Brussels. The results of his studies are published in *Les Archives Médicales Belges*, July, 1881.

The most simple mercurial solution for hypodermic use was suggested by Lewin at Berlin. It is the following:

| | |
|---|---|
| ℞. Hydrarg. bichloridi..... | 40 ctgr. (6 gr.). |
| Sodii chloridi ..... | 5 grm. (75 gr.). |
| Aq. destill..... | 40 grm. (℥ x.). |
| Morph. chlorhydrat..... | 20 ctgr. (3 gr.). |

Calomel is not adapted to hypodermic use. The cyanide of mercury may be employed in doses of from one to five milligrammes. The albuminate and the peptonate of mercury, originally prepared by Bamberger, of Vienna, are the safest solutions of all, never producing abscesses or other lesions. The peptonate of mercury is prepared by the following process: (1) 1 grm. (15 gr.) is dissolved in 50 c.c. of distilled water and filtered; (2) 1 grm. (15 gr.) of sublimate is dissolved in 20 grm. (℥ 5) of water, and the solutions mixed; a precipitate is formed, which is redissolved in 15 grm. (℥ 3¾) of a twenty per cent. solution of chloride of sodium. The solution now measures 85 c.c. Enough distilled water is added to make 100 c.c. The solution is allowed to stand one or two days, and is then filtered. Each gramme of the solution contains 1 ctgr. of the peptonate.

Iodo-pepton is a preparation suggested by Pick, of Prague, in which the iodide of potassium replaces the chloride of sodium in Bamberger's solution, above referred to. The combined effect of the iodide and the mercurial are obtained from this preparation, which has given great satisfaction. Dr. Streitz divided his observations into different groups, with a view to ascertaining certain facts. 1st. The patients of this group had reached different stages of syphilis. The object was, in this instance, to discover the solutions possessing the greatest number of advantages, and the places best adapted to injections, and the proper dosage. The solutions selected were those given above. Since they cause the least pain, one-half or two-thirds of a Pravaz's syringeful should be injected into the deep cellular tissue. 2d. This group includes only patients treated at the beginning of the disease, after the chancre had disappeared. In all these patients the cutaneous symptoms were observed, but were not well marked. The eruptions were discrete, being in some cases hard to detect, and rapidly disappeared. 3d. In this group treatment was not instituted until after the appearance of the eruption. The symptoms disappeared quite as promptly and even more rapidly than when other methods of mercurial treatment were employed. Six months after the injections were given only one case among all those treated had experienced a relapse, which showed itself as a papular syphilide, although, as a rule, only fifteen or twenty centigrammes of the sublimates had been given, divided among thirty or forty injections.

The advantages of this method of treatment, as stated by the author, are: the precision in the dosage; the harmlessness of the injections, and the integrity of the digestive organs which they insure; no deception can be practised; mercurial stomatitis is avoided; no abscesses need result; the cure is rapid.

The author makes the following claims for the treatment: secondary symptoms, in patients who had not been treated until the development of the symptoms, disappeared much more rapidly than when treated by other methods; the average period of duration for the papular syphilides was two weeks.

Although injections given early—so soon as chancre was certainly diagnosticated—did not prevent secondary symptoms, the latter were but slightly marked. The injections were particularly efficacious in subduing glandular enlargements at all stages of the disease.

Spontaneous Fractures due to Syphilis.—An interesting case, illustrative of the relations existing between syphilis and spontaneous fractures, is reported by Prof. Amicis, of Naples (*Il Movimento Medico-chirurgico*, fasc. 8, 1880).

P. G——, forty-nine years of age, had a chancre and buboes at the age of eighteen years. Later he had ulcerations on the penis, the nature of which was not determined; in 1875 painful tumors upon the sternum and ribs. He received no constitutional treatment at this time. In 1877 he began to experience pains in the peripheral extremity of the left humerus, which were slight early in the day, but became excruciating toward evening. A mixed treatment relieved them to a certain extent. Two months later, while pulling, with considerable force, upon the strap of a tight shoe he was putting on, he experienced an acute pain in his left arm, which suddenly became the seat of abnormal mobility. At the hospital a fracture of the humerus was recognized and treated for thirty days with an immovable apparatus, at the end of which time union had occurred. Two months later the patient again experienced paroxysmal pains in the forearm, shoulders, and lower extremities. He re-entered the hospital, and, soon afterward, fractured his clavicle while in the act of rising from his bed. Appropriate dressings were applied and kept in position from December 4th until February 6th; but union was still incomplete at the latter date. The patient received the mixed treatment during this time. Complete union had occurred on May 3, 1879.

The history shows that the fracture occurred, as the result of slight muscular action, at a point in the bone weakened by a specific lesion. The probable course of the disease had been as follows: the compact osseous tissue of the diaphysis had become inflamed and disorganized. Caseous degeneration had followed, and finally a cicatrix had been formed: in other words, the bone had been the seat of osteomyelitis or osteo-periostitis, terminating in cicatrization. Virchow has, however, shown that the osseous cicatrix resulting from the healing of syphilitic osteitis is characterized by defective formation at the centre of the newly formed bone, and hyperostosis at the periphery. The cicatrix is, moreover, in part composed of fibrous tissue, and the fragility of the bones at such points is easily comprehensible. Fe-

cent gummata or fibro-osseous cicatrices following them are, therefore, the pathological changes in the bones, predisposing to spontaneous fracture. It is further possible that syphilis causes a reduction in the vitality of the entire osseous system, thus rendering it more vulnerable. This point has not been definitely settled, nor has the relative frequency of spontaneous fractures in syphilitic subjects been ascertained.—*Annales de Dermatologie et de Syphilographie*, July 25, 1881.

Results Obtained by Incomplete Removal of Ovarian Cysts.—M. Terrier (*Revue de Chirurgie*, August 10, 1881) bases the following conclusions regarding the results of partial ablation of ovarian tumors upon the analyses of several cases, and an exhaustive consideration of the literature of the subject.

*First.*—Incomplete operations, consisting in the evacuation of the cyst, the securing of the cyst-walls to the abdominal wound by means of sutures, and in drainage, furnish results which differ widely according to the nature of the cystic tumor.

*Second.*—When the cyst is unilocular, as are serous cysts of the broad ligament and dermoid cysts, the result may be excellent, and the cyst-cavity is finally completely obliterated.

*Third.*—The same results are obtained in certain varieties of multilocular cysts.

*Fourth.*—When, however, a multilocular cyst presents parietal vegetations, the results are very poor: the tumors constantly recur; the abdominal fistula continues open for an indefinite period; and finally, suppuration exposes the patient to septicæmia and exhaustion.

*Fifth.*—Whether the cyst be unilocular or multilocular, there is always a possibility that a pre-existing ovarian tumor, so insignificant as to have escaped observation at the time of the operation, may subsequently be fully developed.

Renal Lesions in Pregnant Women.—Mayor, in a recent publication, has classified the various renal alterations which may occur in pregnant women. Upon this point there is, at present, a great confusion of opinion. Albuminuria of pregnancy is considered by some as due to purely mechanical causes, the uterus in its development compressing the arteries above the kidney, or the renal veins; according to other writers, albuminuria is the result of blood-changes, while others still regard it as a *serumuria*. From his own researches, Mayor is inclined to admit the constant existence of a nephritis, although he does not, categorically, assert it. "All that we can affirm," he writes, "is that on the one hand, in every case of eclampsia, we have observed manifest lesions of the kidneys existed, and on the other the lesions of the secretory cellules of the kidney we have met with in pregnant women are those which Cornil has described as occurring at various periods in the course of parenchymatous nephritis."

In puerperal nephritis, the changes are: first, a period of congestion; this is followed by a second period of *inflammatory anæmia*, during which the formation of casts and the dilatation of tubules take place. The lesions described are characteristic of a nephritis, and do not pertain to the pathological process known as degeneration.

This parenchymatous nephritis is allied to nephritis *a frigore*, and has no relation with the secondary nephritis of febrile affections and acute diseases, or with that form occurring with certain varieties of intoxication. Chemical reaction of the albumen passed was thought to present another argument in favor of the similarity existing between puerperal nephritis and nephritis *a frigore*.

Mayor cites a case which demonstrates that lesions of the kidney predispose women affected with uterine diseases to grave accidents, just as renal trouble exerts a baneful influence in traumatism.

Albuminuria, however, may be absent during pregnancy, and may appear at the time of development of some febrile affection. We cannot look upon the nephritis of pregnancy as a constant precursor of puerperal phenomena and puerperal albuminuria.

Nephritis of pregnancy, as well as the puerperal form, usually yields to treatment. During puerperal fever, changes in the kidney of various characters, are met with; some of these changes begin during pregnancy, others belong properly to the puerperal state. The latter may occur under two different forms, either as parenchymatous changes, or as interstitial suppurative nephritis. This suppurative nephritis is probably similar to that observed in surgery, in pyæmia resulting from affection of one or the other part of the urinary tract (surgical kidney). The parenchymatous changes, in their elementary lesions, resemble those met with in parenchymatous nephritis *a frigore*, and merits the name of puerperal nephritis. This form of parenchymatous nephritis gives rise to but one well-marked symptom—albuminuria. In its anatomical character and its clinical aspect it differs from the renal changes of typhoid fever, and resembles nephritis *a frigore*.—*Revue Méd. de la Suisse Rom.*, and *Il Mov. Med-chir.*, June, 1881.

Laparotomy in Intestinal Occlusion, due to Constricting Bands.—Dr. Claudat publishes one case, and Dr. Boeckel two cases, of laparotomy for strangulation of the intestine by constricting bands (*Revue de Chirurgie*, August 10, 1881). Each observer draws conclusions from his experience in these cases. Dr. Claudat's case terminated fatally. The author regards this result as due to delay in resorting to the operation, and his failure to divide one bridle which constricted the intestine, although he had severed two occluding bands. Dr. C., therefore, insists upon a prompt and early resort to surgical measures for the relief of the strangulated intestine, as soon as the diagnosis can be definitely made and the ordinary medical methods of relief have failed. He regards it as probable, and, indeed, almost certain, that the difficulties attending the operation and the chances of failure in it are in direct proportion to the time which elapses, after the strangulation, before an operation is undertaken. To avoid the error of leaving some constricting band undivided, Dr. C. advises the surgeon to follow the course of the small intestine from the cæcum upward, relieving all constrictions until a coil of healthy bowel is reached, according to the method proposed by M. Duplay. He also recalls the fact that the bowel will be empty below the principal obstruction.

Dr. Boeckel's two cases recovered, although the operations were performed on the sixth and thirteenth day, respectively after the strangulation. From this fact he concludes that there are cases in which the grave symptoms of strangulation are developed at a very late date, in which even tardy operative interference may be successful. Peyat and Petet collected, according to Dr. B., forty-nine cases of laparotomy similar to those just referred to, in which only seven escaped death. This alarming mortality Dr. B. refers to unjustifiable procrastination on the part of the various operators.

# THE MEDICAL RECORD:

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## HOSPITAL SATURDAY AND SUNDAY.

THE approaching anniversary of Hospital Saturday and Sunday, which commences one week from to-day, affords an opportunity for appealing to the public for aid to the large number of sick poor who fill the beds of our charitable institutions. Over ten thousand of these patients were cared for during the past year, and the number is increasing from year to year. For such medical men as are acquainted with hospital work, it is not difficult to answer the question what would become of these needy sufferers if free board, free lodging, and free medical service were not constantly obtainable for them. And the public are beginning to appreciate the situation. Although the present plan of making collections for our hospitals is but two years old, it has received such hearty and substantial indorsements from every quarter that we can speak of it as being quite firmly established in popular favor, and that it is likely to become more so as its real objects are made known. To the latter end the Hospital Committee are using every endeavor, and are systematizing the collection of funds in such a manner as to leave nothing to be desired in the way of insuring the proportionate increase of subscriptions. As practical results of the work of the committee, it may be stated that, during 1879, the first year of the collection, the amount realized was scarcely twenty-six thousand dollars, while that for 1880 was over forty-four thousand. If the sums collected during the present year advance in the same ratio, the period will not long be delayed when the full measure of aid will be meted out to the hospitals by a generous public. In London, with methods of collection which do not compare with ours either in extent or thoroughness, the annual amount collected averages one hundred thousand dollars.

As is well known, gifts for special hospitals may be so designated by the donors, but it is desirable that as much money as possible should be contributed to the general fund, which is divided by the committee in proportion to the number of days of treatment given to free patients by each of the institutions on the list. The latter arrangement admits of no possible partiality, and insures a just distribution of funds in accordance with the actual work done for the poor. The public are consequently assured that their money is thus calculated to do its utmost amount of good in the very quarters where it is most needed and best used.

In looking over the report of last year, it is somewhat surprising to learn the actual amount of work done by the larger hospitals in this city, and to know how much more is needed by pecuniary aid to enable them to do their full measure of charity, and properly discharge their responsibilities toward the helpless sufferers that throng their wards. But with the popularizing of the collection movement, the scarcity of funds with some of these worthy institutions may be, it is hoped, entirely overcome, and New York enabled to care for its sick poor, not only in the most effectual, but in the most economical way.

The managers of the hospitals guarantee the most available medical and surgical skill to the sick poor under their care, and the public should not allow such good intentions to languish for want of pecuniary aid. It has been shown that the average daily cost of a free patient is one dollar and fifteen cents per day, certainly an exceedingly small outlay in proportion to the benefits received. The latter may be briefly summarized under the following heads—lodging, board, nursing, and medical attendance, and the advantages of all the attachments of a large and well-appointed institution.

Even in an economical point of view, the scheme of hospital contributions should appeal to all who are generously disposed; and should, as it doubtless will, tend to popularize this noble system of charity. With the latter end in view, it is proposed to extend the working of the hospital committee to several auxiliary committees representing different business interests, thus forming a co-operative association for hospital subscription and for hospital benefits. Accordingly the committee, with the proper encouragement, will feel warranted in guaranteeing hospital treatment to any member of these organizations at the rate of one dollar per day of the amount subscribed. Thus would be formed an hospital provident association for the poor mechanic and laborer which would insure help for him in his direst need, at the same time preventing him from becoming a pauper. Not only this, but many of the abuses of medical charity would thereby be counteracted, and the proper discrimination of worthy objects be left to a competent and responsible committee. Of course, a great deal of detail

work would be required to perfect a good working plan, but the proper foundations are being laid, and the prospects are reasonably clear toward success. Certainly, the scheme would have the sympathy of a profession which knows most of the needs of the hospitals on one side and the sick poor man on the other. In any event, it will give its cordial support to every endeavor on the part of the hospital committee to raise funds and to encourage any movement to such an end.

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FURTHER TESTIMONY IN THE GUITEAU CASE.

THE expert testimony for the defence was, it is presumed, closed finally on the 13th. We are obliged to repeat our regrets that it was so comparatively meagre, and that it threw so little additional light upon the question at issue. Two witnesses who were questioned at greatest length were young gentlemen of good scientific abilities, but with less experience and discretion than most of their compeers. The hypothetical question, as we have mentioned before, was very poorly conceived, and it is surprising that any of the experts were contented to answer it.

The evidence of the last witness for the defence, Dr. Spitzka, excited much attention on account of its length, as well as the positiveness of the views expressed. This witness dwelt strongly upon the physical characteristics of Guiteau. The cranial asymmetry, the deficient innervation of one side of the face, and the general expression and manner were thought to argue strongly against the man's mental soundness. Besides this, a belief in an insane hereditary influence added to the witness' confidence in his opinion. Dr. Spitzka was some time ago an advocate of the view that the prisoner was suffering from partial intellectual insanity. His opinion seems to have been somewhat modified now, judging by the evidence recently given. Guiteau's mental condition is there characterized as one in which there is a tendency to delusive opinions and the creation of morbid projects, some imbecility of judgment, and a congenital moral imbecility. The belief that Guiteau was born a moral imbecile, or through disease of the brain became so, was emphasized.

There is not much to be said to all this. We shall be told by other experts that the hereditary influence is doubtful, since Guiteau's insane cousins, one or both, developed insanity through outside influences—it was not in their blood; that Guiteau's father, if insane at all, became so long after Guiteau's birth; that the prisoner's face indicates moral depravity quite as strongly as insanity, and that inferences regarding insanity drawn from the shape of the head are most uncertain; that a prison will show many more mal-formed heads than a lunatic asylum.

It cannot be affirmed that a tendency to delusive opinions, which means, according to the witness, an inability to interpret rightly the affairs, especially the more complex affairs of life, indicates more than perverseness or eccentricity. The same may be said of "a tendency to create morbid projects"—an expression that may mean a great deal or very little.

If, now, we are reduced to the question whether Guiteau's moral depravity is inborn, is the result of disease, or is a consequence of self-indulgence, or whether it comes from a combination of all these factors, we come to a very delicate question. Society must have the benefit of any doubts.

It is difficult to feel great sympathy for a witness who is often so inconsiderately aggressive as Dr. Spitzka. Yet every fair-minded man will share in the feeling of contempt for the mean attempts made by the prosecution to hurt the private character of the witness. And this, notwithstanding the surprising statement of this same gentleman, that whoever took a different ground from himself was either incompetent or dishonest. It is not prudent, at least, for any man, however learned he may claim to be, to say that the ultimate truths of science are locked up in his bosom.

The evidence for the prosecution has, at date of writing, furnished at least one most important fact. It is that Guiteau, some years ago, threatened, that for the sake of the notoriety, he would do some such act as he has already done.

The defence attempted to show that Guiteau was naturally a mild and gentle creature. One of its experts, however, declares him a moral monstrosity. The prosecution has brought a good deal of evidence to support the latter view.

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FIRES IN THEATRES.

IT is impossible to read the accounts of the recent burning of the Ring Theatre at Vienna, without being impressed with the criminal negligence which caused it. Almost everything was wanting in the construction of the building and its surroundings to secure safety in case of fire. The extra exits provided by law were not only inaccessible, but were locked; the ordinary passages were tortuous, and the stairs narrow; the doors opened into the auditorium and galleries; the fire-alarm was out of order, and consequently could not be worked; the iron safety-curtain was not lowered, neither was any warning of the fire given the audience in time to have allowed the majority present to escape; the firemen of the stage were absent; the gas was turned off by an irresponsible person; the oil lamps were neglected; the large iron door at the back of the stage was open; and no one in authority made any attempt to avert a panic. The sins of omission and commission are strangely combined to

prove how easy it is, by the neglect of necessary details of management, to bring about one of the most dreadful disasters known to history. But probably the most useful thing that will grow out of the terrible experiences in Vienna is an extra precaution against fire by theatre-managers. Already steps to such an end are being taken—fortunately not too late—in this and other cities; but, in the course of events, the law of accidents will spring the balance on the wrong side again, and history will repeat itself with a startling surety. Of course all such lessons teach us the value of vigilance and good management; but, after all, is this not an old enough story, except in the face of dire calamity, to lose its general interest? The people who go to places of amusement will, by-and-by, lose confidence in the desire or ability of the managers to protect them, and will be forced either to stay away altogether or look about them for means to help themselves. A very efficient aid in the latter direction would be a diagram, on each hand-bill, of the plan of the building, with the relative positions of all the means of exit. Generally, it is too late to give this desirable information when a fire occurs. But, above all, does it seem to be necessary to enforce such discipline, in all parts of the theatre, as will prevent an otherwise inevitable stampede for the stairs and doors, and each management should be compelled to maintain its own police for that purpose.

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### AN ALLEGED POISON IN CANNED MEATS.

No country does so large a business in canned meats, fish, vegetables, and fruit of all kinds as does the United States. For example, there were canned for home and foreign use forty-eight million pounds of salmon alone during the past year, and this represents only what is done in the States on the Pacific coast. We are not aware of any definite statistics regarding the amount of goods canned in other portions of the country, but it is a well-known fact that they form an important part of the stock in every grocer's store, and that enormous quantities are exported to England and other European countries.

It is for this reason that certain facts recently published by Mr. Otto Hehner, R.I.C., in the *Lancet*, are of particular interest to Americans. Mr. Hehner, who is an analytical chemist of high standing, states that he has made a series of investigations into the composition of these canned goods.

The gastric disturbances known to follow at times the use of food that has been "tinned," have been generally assigned to the small amount of lead in the solder with which the cans are closed. Although in rare instances this may be really the case, Mr. Hehner believes that the real danger lies in the poisonous action of certain compounds derived from the tin itself. He has tested the contents of tin cans containing vegetables, meats of all kinds, fish, lobsters, and fruits. All of the samples examined contained more or less of tin. In many the amount was so large that abundant reactions could be obtained from two or three grammes of the vegetable substances, whilst of the animal foods, one of the soups contained thirty-five milligrammes (six grains), one of the condensed milks eight milligrammes, and the oysters forty-five milligrammes of tin to the pound.

Tin, according to the authority quoted, is far more readily attacked by food-matters than is commonly supposed, and is to be found in comparatively large amounts in an overwhelming majority of canned goods, irrespective of the nature of the same. Acid fruits, such as peaches and cherries, readily attack the tin, while meats and vegetables act upon it to a less extent.

Having shown the almost uniform existence of tin in canned goods, Mr. Hehner next discusses the question whether this tin is poisonous. Several experiments were made upon guinea-pigs with stannous hydrate and stannic hydrate. It was found that a little over ten grains of the *stannous* hydrate would produce death in a guinea-pig, with symptoms of irritant poisoning. The stannic hydrate, however, seemed to be innocuous.

The conclusions are that the canned foods would be more likely to cause the production of stannous than stannic hydrate. Consequently, it must be supposed that in most cans there is more or less of an irritant poison.

Mr. Hehner is somewhat indefinite in his statements regarding exactly what is the form of tin oftenest found in the cans. His experiments made to test the character of the tin salts are also extremely meagre and insufficient. In regard to the one fact, however, that tin does exist in the foods preserved in tin cans, there seems to be no doubt. And he has brought enough evidence as to the alleged poisonous effect of this metal to make the matter one deserving further careful investigation.

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### PRE-NATAL CULTURE.

Science can be very easily made ridiculous. This was abundantly proved, recently, by the proceedings of a body of "reformers" who convened under the name of the "American Institute of Heredity," in this city. The alleged objects of this institution were certainly very praiseworthy. They were to urge the necessity of only those people marrying who would have healthy and moral children. It might indeed have called itself an institution for the creation of perfect husbands and model mothers, except that the necessity of there being any conjugal relation did not seem to be strongly felt. One of the speakers thought that only those who had passed a physical examination before a State

physician ought to marry. It was not so much love, as the length of the conjugate diameter, that should determine matrimonial alliances. Indeed, the growth of "that unsentimental lust called love" was not to be encouraged.

The urgent need of pre-natal education was oppressively felt by all. "Generation before regeneration" was apparently the mystic motto adopted, it being especially good for a motto since it is equally significant whether read backward or forward. Exactly what the pre-natal culture should be was by no means satisfactorily brought out. To be sure, one lady who had had a pre-natal education herself, and knew all about it, did give some definite hints. In her belief, all that is necessary is that the mother should will, with the same regularity that she performs her other functions, that the unborn child should be an artist, a musician, a poet, or a burglar. The result, said the speaker, as proved in her experience, would be just what was desired. We might believe that there was something in this, if it were not for the uncertainties of sex. For the mother might set her heart on having a bishop, when, after all, the baby would be "only a girl."

We judge, on the whole, that pre-natal culture would be best secured by something in the high æsthetic line: letting the prospective mother, for example, lie behind a stained-glass window, in a Queen Anne room, on a pea-green sofa, and there study the dadoes and dream of faint lilies, with a sunflower reposing over the breast. This was not actually suggested by the Institute, however, nor was any formula for the production of robust and amiable boys and girls announced.

One speaker thought that there were about thirty per cent. of women who could make good wives and mothers. The remaining portion of women were about equally divided between those who can only make good wives or good mothers, or neither. Incidentally, a divine blessing was invoked upon old maids; loud and responsive applause revealed the social condition of a large part of the audience.

Only one incident disturbed the beautiful harmony of thought and progressive development of truth that was characterizing the meetings of the association. A medical man appeared upon the scene and criticised the Institute with a vigor and absence of periphrasis that very nearly produced a collapse. "How," said the doctor, "can a body of ignoramuses, who are possessed of the cheek of inspiration, try to settle points on which doctors and scientists are not agreed?" The speaker ridiculed the idea that bad fathers had bad children. He had seen women with bad husbands who had borne beautiful children. On the other hand, he had known the children of refined, educated, and highly respectable parents, to be devils from the start. If, said he finally, the members of the convention didn't know more about natural processes than appeared from their language, they had better hold their tongues.

Whether they did know more or not, the Institute adjourned next day *sine die*. It illustrated the result of an attempt of muddled and untrained minds to grapple with problems beyond their reach.

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### DENTAL SURGEONS IN THE ARMY AND NAVY.

A MOVEMENT is on foot aiming to secure the appointment of dentists in the army and navy. It is understood that a bill for this object will be presented to Congress at its next session, and that the subject is to be brought up at the meeting of the American Medical Association in 1882.

The need of dental services in the army and navy was first urged some thirty years ago. The matter has been twice laid before Congress since then, but without any action being taken. A dentist has been appointed to the Naval Academy at Annapolis with the rank of Assistant-Surgeon, and this is, we are told, all that has been done in the matter.

The want of dentists for our soldiers and sailors is very apparent. Sound teeth are one of the physical requirements for service, and it is only right that opportunities for preserving the teeth should be given.

On sea-voyages and in Western service it is quite impossible, as things now stand, that there should be any way of treating diseased teeth except by extraction. The testimony of several of the medical staff of the army and navy, as given in the *Times* recently, is to the effect that the need of dentists is much felt.

There are a number of practical difficulties, however, in the way of creating and furnishing these services.

We have an army of only twenty thousand men, scattered in small garrisons throughout the country. It would hardly be feasible to appoint a dentist for each garrison, and the dental surgeon would have, therefore, to be a rather expensive itinerant. In the navy the difficulty would be still greater. In both branches there would, no doubt, be considerable opposition to admitting dentists to equal rank with medical men. For dentists have no right to call themselves medical or surgical specialists, unless they have gone through the same kind of education and training as that to which the gynecologist, laryngologist, or oculist subjects himself.

There is no doubt, however, that dentists are often needed and would be most useful in both army and navy. We should be glad to see the obstacles in the way of the introduction of their services there overcome.

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REMOVING PLASTER JACKETS.—Dr. T. E. Wilcox, Assistant Surgeon U. S. A., finds the metacarpal and Hay's saws very useful for this purpose.

# Reviews and Notices of Books.

FASHION IN DEFORMITY, AS ILLUSTRATED IN THE CUSTOMS OF BARBAROUS AND CIVILIZED RACES. By WILLIAM H. FLOWER, LL.D., F.R.S., etc., Hunterian Professor of Comparative Anatomy, etc. London: Macmillan & Co. 1881.

IN this interesting little essay, the substance of which was delivered as a lecture before the Royal Institution of Great Britain, Professor Flower sets forth the follies of blind submission to the dictates of the tyrant fashion. The book is intended for the laity rather than the profession, as it forcibly explains what physicians are already quite familiar with, *i.e.*, that the modern propensity to deform certain parts of the body is scarcely less prevalent than was that of years ago. Civilization, it is well known, condemns the votaries of fashion to absolute physical miseries, which, especially in the female sex, become a potent cause for evil. The well-known crippling of the feet, resulting from wearing "fashionable" shoes, makes a very near approach to the Chinese custom which our civilization condemns and abhors. By long-continued tight lacing, and similar unnatural practices, Flower justly says that we put ourselves on a level, in point of taste, with the Australian savages, Botocudos, and Negroes.

THE THERAPEUTICS OF GYNECOLOGY AND OBSTETRICS, comprising the Medical, Dietetic, and Hygienic Treatment of Diseases of Women. Second Edition. Edited by WILLIAM B. ATKINSON, A.M., M.D. Philadelphia: D. G. Brinton. 1881. 8vo, pp. 571.

THIS work comes to us in the second edition, enlarged, revised, and improved. It is decidedly one of the most useful volumes that the general practitioner can have within his reach.

TRANSACTIONS OF THE AMERICAN GYNECOLOGICAL SOCIETY, for the Year 1880. Vol. V. Boston: Houghton, Mifflin & Co. 1881. 8vo, pp. 382.

THE fifth volume of the Transactions of the American Gynecological Society is filled with interesting material, not only for the specialist, but for the general practitioner. Although the number of papers is not so great as in former volumes, the subjects treated of are in greater variety, and, if possible, of more practical character. The articles, without exception, are evidently prepared with much care, while the discussions of the subjects are of such a character as to bring out all the salient points. The address of the president is timely, and touches upon many points of interest to the society. Dr. Battey, of Georgia, discusses, ex-cathedra, the proper field for Battey's operation. Dr. Geo. J. Engleman, of St. Louis, cites two cases of anterior displacement of ovary for which Battey's operation was performed. Uterine massage as a means of treating certain forms of enlargement of the womb is pointedly discussed by Dr. A. Reeves Jackson, of Chicago. Dr. Henry P. C. Wilson, of Baltimore, Md., treats of ovariotomy during pregnancy, and Dr. Theophilus Parvin presents, with equal thoroughness, the subject of secondary puerperal pregnancy. Three cases of death from rupture of the uterus with laparotomy are detailed with accompanying remarks by Dr. William J. Howard, of Baltimore, Md. "Occlusion of the Gravid Uterus" is the title of an article by Dr. Joseph A. Eve, of Augusta, Ga. Dr. Geo. J. Engleman, of St. Louis, communicates a most interesting and exhaustive account of the posture in labor assumed by different nations, and at different periods. The paper is profusely illustrated, and is filled with most curious and interesting statements. It is decidedly one of the most interesting articles we have read for a long time. The hot rectal douche is quite practically treated of by Dr. Jas. R. Chadwick, of Boston, as is also the subject of the induction of premature labor by William L. Richardson, of Boston, Mass. Dr. Henry F. Campbell, of Georgia, has an interesting communication on quinine in gynecic and obstetric practices. Dr. W. H. Byford reports a case of successful extirpation of the kidney, while Dr. C. D. Palmer concludes the series of papers by an excellent article on laparo-hysterotomy. The volume is published in its usual elegant style, and is a triumph of the typographic art.

PRACTISCHE BEITRÄGE ZUR KINDERHEILKUNDE. I. Heft. Pneumonie und Pleuritis. Von DR. ADOLF BAGINSKY, in Berlin. Tübingen: Verlagder H. Laupp'schen Buchhandlung. 1880. (Practical Contributions to the Therapeutics of Children. Vol. i. Pneumonia and Pleurisy. By DR. BAGINSKY, of Berlin. Tubingen: H. Laupp's Publishing House. 1880.

WITH this volume Dr. Baginsky initiates the publication of the results of his investigations and observations at the Clinic for Sick Children in Berlin. Since the year 1872 three thousand one hundred patients have obtained medical attention at this institution.

The subjects taken up in the present number are pneumonia and pleurisy. As regards the differentiation of catarrhal and croupous pneumonia, the author sides with Henoch, Steiner, Gerhardt, and others, who declare that, in a certain number of cases, a distinction is difficult, and at times impossible. The author hopes to be able to prove that there are numerous instances in which there can be no doubt as to the individuality of each form, so dissimilar are they in onset and general course. On the other hand, cases are not infrequently observed which it is impossible to classify. There are cases in which the seat of the disease, its extension, and the course of the fever furnish no guide for a decision whether the disease be croupous or catarrhal pneumonia. Lobular pneumonia may assume the character of croupous, while, on the other hand, lobar pneumonia may present the type of the catarrhal affection. At times there appears to be a combination of both forms, still further complicated by caseous and tubercular changes in the inflammatory products. In the majority of cases, however, a differential diagnosis between croupous and catarrhal pneumonia can be established. To that form in which such a distinction cannot be made the name of mixed pneumonia is applied.

Dr. Baginsky, in common with other writers, finds that croupous pneumonia occurs more frequently on the right side than on the left (fifty to thirty-four). His observations also corroborate the experience of Ziemssen, that the upper lobe of the right side is more frequently affected than that of the left, while the opposite holds good as regards the lower lobes. No explanation is offered for this fact.

Under the head of croupous pneumonia, the author refers to various anomalous forms of this affection, *e.g.*, abortive pneumonia, wandering pneumonia (pneumonia migrans), gastric pneumonia, and cerebral pneumonia (Rilliet and Barthez).

The second part of the first volume treats of pleurisy. According to Dr. Baginsky, simple uncomplicated pleuritis is quite a rare affection in children, he having seen but twenty-one cases in his clinic.

Should the character of these contributions be sustained, the work bids fair to become an interesting addition to pædiatrics.

CHEMICAL ANALYSIS OF THE URINE, BASED IN PART ON CASSELMANN'S ANALYSE DES HARNS. By E. F. SMITH, Ph.D., and JOHN MARSHALL, M.D. Philadelphia: Presley Blakiston. 1881.

THE student of to-day must often be sorely puzzled in his choice of a guide-book for elementary instruction in the various departments intimately or remotely related to medicine. The existing works on urinary analysis, for example, are scattered in untold numbers over the land. But the supply of such manuals continues to satisfy imaginary wants. The student is supposed to be ever exclaiming, "I want a guide-book," and, with Byron, we may call this

> —— "An uncommon want
> When every year and month sends forth a new one,
> Till, after cloying the gazettes with cant,
> The age discovers it is not the true one."

However, we mean no disparagement of the labors of Smith and Marshall. Their attention is devoted mainly to the chemical side of the subject, and their association with students has enabled them to prepare a practical and reliable little reference book. Those who are already the fortunate or unfortunate possessors of a similar work will hardly care to purchase the present volume, even if it contains some chemical details not found in their manuals. Those who are yet without a guide-book for urinary analysis will find this a useful and welcome aid.

PROCEEDINGS OF THE CONNECTICUT MEDICAL SOCIETY, 1881. Nineteenth Annual Convention, held at Hartford, May 25th and 26th. New Series. Vol. II. No. 2.

THE volume before us contains a more than usual amount of interesting matter. The report of the Committee on Matters of Medical Interest presents the results of some studies regarding phthisis, which show that it is apparently increasing among the foreign born of the State. The Committee on Lunacy Commissions gives an account of the history and uses of these organizations in this country and elsewhere. It inclines to the opinion that they should be tried more extensively in the United States. Dr. Seguin's paper on epilepsy has appeared in THE RECORD. The report upon malaria in the Connecticut Valley has also been noticed by us. There are several articles upon lacerations of the cervix, as well as a number of miscellaneous contributions, which are short and interesting.;

THIRD ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF THE STATE OF RHODE ISLAND, for the Year ending December 30, 1880.

THIS report contains the vital statistics of the State in full. There is also a valuable and somewhat novel feature in the report on cattle diseases. There are no special papers, however, on sanitary subjects.

FIFTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF WISCONSIN, 1880.

THERE are several good papers in this volume, and the report of the State Board's work shows it to be an active and useful organization. The subjects of school hygiene, kerosene, diseased meat, recreation, and the study of hygiene are treated of by various contributors. These make the report a valuable sanitary document.

# Reports of Societies.

## NEW YORK PATHOLOGICAL SOCIETY.

*Stated Meeting, November* 9, 1881.

DR. GEORGE F. SHRADY, PRESIDENT PRO TEM.

### EPITHELIOMA OF THE NECK.

DR. RIPLEY presented a specimen with the following history, furnished by Dr. Terriberry, house surgeon: J. S——, seventy-three years of age, was admitted to Charity Hospital, October 7, 1881. The patient had always had very good health. He had had syphilis, but there was no present evidence of the disease. He had been in the habit of drinking alcoholic drinks up to eight years ago. In his early life he served as a sailor, and during that time he lost his left leg. Twenty years ago he had typhoid fever, from which he fully recovered. About twelve years ago, while convalescing from varioloid, he noticed a small "bleb," about one-eighth of an inch in diameter, at the apex of the left occipital triangle. It was painless, slightly raised above the surrounding integument, hard to the feel, and from it oozed a watery material on squeezing. At the end of five years this sore was about half an inch in diameter, and had the same general features, except that it was more solid than when it first appeared. About three years ago it began to grow more rapidly than it had done formerly. Two months ago it began to ulcerate upon the top and to grow rapidly. On admission there was a flattened tumor two inches in diameter, situated at the apex of the left occipital triangle, and abruptly elevated above the surrounding skin to the height of half an inch. It was freely movable. The surface was partially ulcerated, and had an odorless, sero-sanguinolent discharge, the unbroken portion being smooth and shining. The growth was somewhat indurated. It was not painful, nor was there any evidence of inflammatory action in the tissues surrounding it. There was no neighboring glandular enlargement. The patient's general condition was unfavorable; his appetite was poor; his lungs were the seat of vesicular emphysema; he had headache, some vertigo, blurred vision, and constipated bowels. A portion of the growth was removed and examined microscopically by Dr. Ripley, and found to be carcinoma of the epithelial variety.

On October 14, 1881, the patient was anæsthetized, and Dr. Terriberry, house surgeon, removed the tumor, together with a small portion of the muscular tissue by which it was surrounded. No vessels were ligated. The wound was dressed during the first twenty-four hours with picked lint wet in carbolic acid, one drachm to the pint; afterward with balsam of Peru and oakum. On November 7th, the case was progressing favorably, and the open sore was only an inch in diameter in one direction, and half an inch in the other, and had a healthy granulating surface.

Dr. Ripley remarked that he presented the specimen for three reasons: 1st, on account of the unusual chronicity of the disease; 2d, on account of its not having given rise to constitutional symptoms; and, 3d, because the cervical lymphatic glands were not involved.

DR. GERSTER referred to two specimens of amputated legs which he had presented to the Society.

The amputations had been performed on account of elevated ulcers of the character presented in Dr. Ripley's case, and which had persisted for eighteen and thirty years respectively without causing much discomfort beyond local irritation, and without causing any generalization of the disease or infiltration of the glands in the vicinity of the local lesion. From those cases, and from that reported by Dr. Ripley, he assumed that the tumors were not originally of a cancerous character; that they were of a benign character, and had gradually taken on a malignant form. He remembered one such case, where an Austrian officer had a large wart upon his back which was constantly irritated by the strap which held his sword. That wart became ulcerated, and subsequently a very malignant cancer, and finally destroyed the life of the soldier. Certainly it was against the experience of pathologists and clinicists that cancer should exist for twelve, sixteen, or even eighteen years, without killing the patient.

Dr. Ripley, in reply to Dr. Gerster, referred to a case which he had about twelve years ago. The patient came to him with a tumor of the breast which she had had for eighteen years; but it had recently commenced to grow rapidly, and he amputated the breast, together with an axillary gland. The tumor was carefully examined microscopically, and it was found to be true cancer in which original nodule had undergone extensive fatty degeneration, thus showing that the structure had taken on a retrograde action. He also referred to cases observed by Dr. Barker, in which epithelioma of the cervix uteri had been under observation for twelve years; and Dr. Emmet had also reported cases in which epithelioma of the cervix had existed eight, six, and four years. He did not dispute that such tumors may have been originally of some other character, but there was no proof in his case that the disease had ever been anything else except cancer. He believed that there had been no proof in many cases that the so-called warts were simply warts. Many of them were not examined with the microscope, and they may have been malignant disease in a state of rest, and in that condition the patient carried them for years. He had operated upon a case in Charity Hospital, three or four years ago, in which epithelioma had lasted for several years, when suddenly it began to grow very rapidly and he removed it entirely, and at the same time removed a large portion of the parotid gland. After the operation the patient gained in flesh and the wound healed almost entirely, when the disease began to sprout out rapidly and carried off the man within a few weeks. Because a tumor grew slowly and then developed rapidly, did not prove that it was cancerous from the beginning. At the same time Dr. Ripley believed that tumors might change their character. He also wished to add that he believed with Billroth and other observers, that people did not have cancers from bruises or wearing sword-straps upon their backs, unless there existed in the constitution a tendency to the malignant disease. Such irritants might develop the cancer more speedily, but in those patients the cancer would eventually develop spontaneously.

Dr. Wiley referred to a case in which it was said that there was cancerous disease of the cervix uteri twenty years ago. The patient remained in exactly the same condition, and when only a few years ago he saw her he diagnosticated laceration of the cervix, operated, and the wound healed kindly. He supposed that there was no cancer about it, but cancer afterward developed, was operated on, and, so far as he knew, the disease had not returned. He had seen very old cases of laceration of the cervix in which there was no evidence whatever of cancer, and he had reached the conclusion that these lacerations did not produce cancer, although they might produce a very great amount of irritation. If persons were to have cancer, they would have it whether they had laceration of the cervix or not. He believed that that had been proved satisfactorily.

Dr. Wyeth thought that it had been settled that irritations did produce cancer; as, for example, in carcinoma of the intestines the disease appeared at those points in which the ingesta passed through very narrow openings, where the greatest irritation was produced. Besides, the parts of the external body most subject to irritation were the most liable to cancerous disease. There might be a predisposition to the disease, but he thought that it was an established clinical fact that irritation produced, as well as precipitated, the malignant disease.

Dr. Ripley thought that the location of the disease might be decided by the irritation, but that the cancer itself was not caused by the irritation.

Dr. Wyeth remarked that it had not always been proven that predisposition to the malignant disease existed.

### LABOR AT FULL TERM—SUBSEQUENT CONDITION OF THE PLACENTAL SITE.

Dr. Ripley also presented the uterus, obtained through the courtesy of Dr. L. L. Seaman, chief of staff at Charity Hospital, removed from the body of a married woman, twenty-eight years of age, who gave birth to her second child, October 25, 1881, at the Maternity Hospital. The following history was furnished by Dr. Chas. H. French, house surgeon: The labor was normal. October 31st, on account of fright, she suddenly sprang from her bed, and was with difficulty quieted. Shortly afterward she complained of intense pain in the lower part of the abdomen and back, and severe headache. Poultices, morphia, and an ice-cap were ordered. On October 30th (day previous to the fright) her temperature was 100° F. in the morning and 101½° in the evening, and respiration 32°.

October 29th.—Temperature, 100° F.; pulse, 88 to 96; respiration, 28.

October 28th.—Temperature, 100° F.; pulse, 80 to 90; respiration, 28 to 24.

October 27th.—Temperature, 98⅓° F.; pulse, 68 to 70; respiration, 20 to 24.

October 26th.—Temperature, 98½° F.; pulse, 72; respiration, 24.

On October 31st the temperature in the evening was 104⅓° F.; pulse, 104; and respiration, 33.

November 1st.—Abdomen, very tender, but especially in the inguinal regions and lower portion. Tympanites; thighs flexed at intervals. Evening temperature, 104° F.; pulse, 132; respiration, 34. Morphia was continued. During the night the temperature fell to 102⅓° F., pulse to 120, and respiration to 20. Vomiting was a persistent symptom.

November 2d.—At 4 A.M., the patient had a severe chill, and shortly afterward her temperature reached 105⅘° F.

The patient died at 7 A.M. November 3d.

The autopsy was made by the curator, Dr. Putzel. The body was well nourished. The heart was normal. The entire lower lobe of the left lung and a portion of the upper lobe were in the red-hepatization stage of pneumonia. The spleen was large and

soft. The liver was the seat of chronic interstitial hepatitis. The kidneys were normal. The abdomen was tympanitic. The right Fallopian tube was enclosed in a layer of plastic exudation. The uterus reached as high as the top of the symphysis pubis. At the placental site there was an elevation four inches in diameter, and half an inch high, and its surface was uneven, and presented a granular appearance.

Dr. Ripley presented the specimen with special reference to a discussion which occurred between himself and Dr. Garrigues, concerning the condition of the inner surface of the uterus at the placental site a short time after labor, say one month (see MEDICAL RECORD, vol. xx., p. 496).

The appearance of the mass occupying the old placental site was very similar to that observed in the specimen presented by Dr. Watson, the variations being that it was a little larger, in some places thicker, and its surface more uneven. These differences were probably mostly due to the difference in their ages—one being a month old and the other only eight days. From the few works on obstetrics which he had consulted, he had been unable to obtain any information in regard to this interesting question; but Cornil and Ranvier, in speaking of the changes which take place in the uterus following delivery, describe a granulating surface left after the expulsion of the placenta, which subsequently breaks down and is discharged; and they think it a probably slow process by which the parts at this point are regenerated. They quote Slavjanski as having recently described papillary vegetations, analogous in structure to granulation tissue, in the uterus of a young woman three months after delivery. Dr. Ripley was therefore of the opinion that these masses were mostly made up of granulation tissue, and not of retained placenta. In a medico-legal point of view, as was suggested by Dr. Watson's case, it was important to ascertain whether they were normal or abnormal. The specimen presented he regarded as cumulative proof of the correctness of his statement at a previous meeting that they were, at least, of common occurrence.

DR. BRIDDON referred to specimens presented to the society by Dr. T. C. Finnell, in which there was uniformly an elevated and circular area of tissue at the placental site. They were specimens for the most part obtained after abortions. There was no evidence as to whether the mass was placental or granulation tissue.

DR. WYLIE remarked that it had been stated repeatedly that it was wrong to leave any placental tissue within the cavity of the uterus, and he asked Dr. Ripley if he thought it was a common practice to allow it to remain. He regarded the condition present in Dr. Ripley's specimen as one due to puckering of the tissue from uterine contraction with subsequent granulation. It was wrong to leave placental tissue attached, as it was very liable to give rise to hemorrhage and possibly septicæmia.

DR. RIPLEY was glad that Dr. Wylie had asked him the question, because it gave him an opportuunity to correct an inference which possibly might be drawn from the report of his remarks made at the meeting alluded to—that is to say, it might be inferred that he did not believe in removing portions of placenta, whereas his practice was the most positive in that respect; and if there was any evidence whatever that a portion had been retained, he invariably dilated the cervix uteri, if necessary, and examined with reference to that point.

The society then went into executive session.

## NEW YORK NEUROLOGICAL SOCIETY.

*Stated Meeting, December* 6, 1881.

DR. T. A. MCBRIDE, PRESIDENT, IN THE CHAIR.

BEFORE the paper of the evening was read, DR. T. A. MCBRIDE, having asked Dr. Seguin to take the chair, moved a suspension of the by-laws in order to allow Dr. Burchard to make a personal explanation. The motion being carried, DR. BURCHARD said that he wished to offer some corrections regarding the report of a case of

REFLEX PARALYSIS FROM GENITAL IRRITATION,

made by him at the last meeting of the society. He had at that time said that Dr. McBride saw the case in consultation, and pronounced it one of reflex paraplegia from phimosis, which was the diagnosis made by himself and Dr. Lente. Dr. Burchard then read the full history of the case as recorded in his notebook at the time. By this it appeared that Dr. McBride had not considered it a case of paraplegia, but one probably of spinal irritation from phimosis.

The paper of the evening was then read by DR. V. P. GIBNEY, it being entitled

INTERMITTENT SPINAL PARALYSIS OF MALARIAL ORIGIN.

Dr. Gibney proceeded at once to relate the histories of certain cases, showing, as he thought, this form of disease:

Case I. was that of a boy seven years of age. He was one of three children, the others being healthy; father intemperate, mother nervous. Family lived in a very malarious neighborhood. In September, 1878, he had a high fever, with delirium at night, and suffered from pains in the limbs, and hyperæsthesia of the surface. This continued for a week. He took much quinine. He improved, then got worse again; was finally left with paralysis of the four extremities not quite complete. There was some faradic reaction. Diagnosis: myelitis of anterior horns. He was admitted to the hospital later. He then showed marked genu valgum; walked with difficulty, and legs far apart. Diminution in power of some of the muscles; relaxation of posterior ligaments of knee; knee phenomena normal; tendo Achillis tense.

Treatment, electrical and mechanical; no medicines given. Gradual improvement took place—so much, indeed, as to cast doubt over the diagnosis of spinal paralysis, from a pathological standpoint. The boy left the hospital cured.

He returned later with nearly the same history as that given before, but the attack this time was less severe. He had been living in a malarious locality. Ordered quinine and faradism. Under this he was completely restored again.

He returned to the malarious locality. After a time he began to have chills; was improved by quinine, but finally was brought to the hospital, in June, 1880, for a third time, severely paralyzed. He suffered much from pains in the limbs, and he had a fever. The fever gradually disappeared; the electrical reactions were very feeble; the patient gradually improved, and became able to walk about; electrical reactions also became stronger. By August he was nearly well. In October he was worse again; his limbs became paretic; he was unable to walk; improvement soon after set in.

Dr. Gibney here referred to the fact that intermittent spinal paralysis was very rare indeed. A case was reported in 1857, by Macario, of a woman who

was taken with paralysis of the extremities and tongue, two days after confinement. These symptoms were repeated in a quotidian type for three days, and were cured by quinine. Two other cases are quoted by Erb. One, reported by Hartwig, was that of a vigorous laborer, aged twenty-three, who had had tertian ague for five weeks, five years before. Since then he had been well. He was gradually attacked with paralysis, and in four days all his extremities, as well as the trunk and neck, were paralyzed; sensibility was intact; this lasted twenty-four hours; it then let up, the patient perspiring freely. For twenty-four hours patient was well; then symptoms all returned. For over seven months intermissions or remissions of health, or improvement alternated with paralysis. Quinine and arsenic lengthened the intervals of health sometimes to four days or more. At the end of seven months no radical improvement was present, and the termination of the case is not known.

A case of intermittent tetany is reported by Dr. Wilkes. The literature of

MALARIAL POISONING

is full of neuroses. Trousseau thought that very nearly all the symptoms in masked malaria could be explained by referring them to the effect of the poison on the nervous system. The speaker thought it not difficult, therefore, to suppose that malarial poison might cause an anterior poliomyelitis. In such cases the anatomical diagnosis is the same as in ordinary spinal paralysis; but, pathologically, there is a different condition, and the prognosis differs materially.

In Dr. Gibney's case the first attack occurred in September, 1878, six days after an attack of intermittent fever. Partial recovery took place. In September a second attack occurred, from which recovery was not complete till the next January. Quinine was not given. The third attack occurred five weeks after the cure of the second. Recovery took place in three weeks. The fourth attack occurred four months after recovery from third. He was discharged in six months perfectly well. Six months later he had a fifth attack coming on gradually with pains in the limbs. Improvement was slow, and now, after four months, he is not yet cured.

Case II. was that of a boy aged six. He was admitted to the hospital with paralysis of the legs, and hyperæsthesia. Electrical reactions good, but not vigorous. No real atrophy. Two years before he had lived in a malarious locality, and was taken suddenly ill with fever and pains in the limbs. Was sick for six weeks, his limbs becoming paralyzed. He recovered in a few weeks.

In April, 1880, he had a second attack, which began with *malaise*. He gradually lost power in his limbs. Being brought to the hospital, he slowly improved. September 24th he was discharged cured. The next spring he was taken again with paralysis in all four extremities. Two weeks later he had convulsions. He died finally of exhaustion. He did not have tuberculosis. No autopsy was made.

Dr. Gibney, in commenting on the preceding cases, said that he thought that pathologically there must be some difference between them and those of ordinary spinal paralysis. In studying them he had been struck with the symmetrical development of the symptoms which occurred in all cases. In no instance had he found the typical degenerative reaction. Dr. Seguin had said that if cases of infantile spinal paralysis did not recover in two or three months, there was very little hope for them. Dr. Gibney could not recall a single case in which complete recovery had taken place. He was inclined to believe that simple active, followed by passive hyperæmia, occurred in the cases of intermittent spinal paralysis. Such a condition of congestion might vary under the action of the malarial poisoning, just as was the case with the spleen.

The theory of a multiple neuritis might be entertained.

Dr. M. Putnam-Jacobi, being called on to open the discussion, said that she had seen Dr. Gibney's first case. She was puzzled by it then, but felt even more so since hearing the history just given. When she first saw the case she was struck with the fact that the child complained of pain all the time, and it was pain which made him object to walking more than his muscular inability to walk. He did not complain of pain upon firm rubbing, but upon slight touches. Her first thought was of hysterical paralysis or partial paralysis. Only, the electrical reactions could not be obtained, or were not good in some muscles.

Comparing this case with two of those cited by Erb, there seemed to the speaker to be a marked difference between them. In the latter the paralysis was very temporary and of a quotidian type. Quinine promptly cured the attacks. Romberg refers to the sudden appearance of paraplegia in cases of pernicious malarial fever.

In Dr. Gibney's case, 1st, the paralysis did not come on suddenly; 2d, it lasted for some time, and did not intermit as in intermittent fever; 3d, it did not terminate in sweating; 4th, there were marked sensory disturbances; and 5th, the paralysis was not complete; in all those respects differing from the cases quoted by Erb. In Macario's case the paralysis was not referred by that author to malaria, but was thought to be an idiopathic form, distinct from the hysterical. There is one form of paralysis to which Dr. Gibney's case might be referred, and that is the rheumatic. This is a most common form of functional paralysis. The point against such a diagnosis was the electrical reactions, which were not those of a functional paralysis.

Dr. E. C. Seguin said that Dr. Gibney's last case was so different from the first that it might be referred to a different cause, perhaps that of a diffuse neuritis.

The speaker then enlarged upon the extreme rarity of cases of paralysis from malarial causes. In many extensive treatises the disease is not mentioned, or, as in Niemeyer, is barely referred to. Neither Erb nor Hertz (in Ziemssen) report any cases of their own. Nash and Leyden report cases. Macario stole his case from another author.

The speaker was inclined to take the same view as Dr. Jacobi regarding Dr. Gibney's case. It seemed to be one of a relapsing rather than intermittent character. In these cases it would be nearer the truth to say that malaria caused the fever, and the fever the paralysis.

Dr. Seguin then read a case of his own:

The patient, a man, fifty-five years of age, had passed through a period of overwork and anxiety. He had had no distinct ague. He complained of headache, numbness of the right arm and leg, and more or less of the whole right side of the body. He did not seem very ill. Was of full habit. A prescription was given. He returned in two weeks saying that he was better, but still had headache, with numbness and a jaded feeling in right side

every other day. Quinine was given and recovery took place within fourteen days. He thought the case might be termed one of

INTERMITTENT POST-MALARIAL HEMI-NUMBNESS.

DR. A. D. ROCKWELL related the history of a man of middle age who suffered from an

INTERMITTENT HEMIPLEGIA.

He was first taken suddenly with complete right hemiplegia; articulation imperfect, mind clear. He recovered in a few months. He was then taken with a second attack, not so severe as the first. He could walk a little. After this he was taken every other day in the same manner for three or four weeks. The paroxysms then changed in character. After some variations in his condition, the hemiplegia became complete, more serious symptoms set in, and he soon died. Post-mortem showed some organized lymph upon the pia mater of the brain; choroid plexus enlarged and cystic; considerable serous effusion at the base of the brain; liver fatty; also the mitral valves. No rupture of arteries, and no embolism or thrombus in the brain. A diagnosis of the old-fashioned kind would be serous apoplexy. Dr. Rockwell thought it plausible to suppose that there was an intermittent spasm of the cerebral vessels, which might account for the paralyses. Quinine was given on account of the intermittent character of the attacks. Electricity was also used.

As regards

MALARIAL PARAPLEGIA,

he had seen two unmistakable cases.

DR. L. C. GRAY dwelt upon the fact that Dr. Gibney's case was more of a relapsing than intermittent type. If a case did not have any characters of periodicity it was hardly right to say it was malarial. The speaker had never seen a case of paralysis due to malaria, but he had seen cases which apparently had such an origin. The history of such a case was then related. Dr. Gray thought that in the next ten years the attempt would be made to show that malaria is a neurosis. Already several authors had shown a leaning in that direction.

DR. BIRDSALL inquired whether there were any qualitative changes in the electrical reactions. He was told that at one time there was, in one of the cases.

Some further remarks were made by Drs. Seguin, Putnam-Jacobi, and Gray. The society then adjourned.

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ÆSTHETICS AND CATHARTICS.—Bunthorne, the "fleshly poet," in the new opera "Patience," gives the following as "a wild, weird, fleshly thing, yet very yearning, very precious. To understand it, cling passionately to one another and think of faint lilies:"

What time the poet hath hymned
The writhing maid, lithe limbed,
  Quivering on amaranthine asphodel,
How can he paint her woes,
Knowing, as well he knows,
  That all can be set right with calomel?

When from the poet's plinth
The amorous colocynth
  Yearns for the aloe, faint with rapturous thrills,
How can he hymn their throes,
Knowing, as well he knows,
  That they are only uncompounded pills?

It is, and can it be
Nature hath its decree,
  "Nothing poetic in the world shall dwell?"
Or that in all her works
Something poetic lurks,
  Even in colocynth and calomel?
    I cannot tell.

# Correspondence.

## ANOTHER WORD FOR DR. BEARD.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: My attention has been called to a letter from Dr. William A. Hammond in your issue for the 15th of October last, criticising a letter which Dr. J. Crichton Browne has communicated to the *British Medical Journal* "relative to the experiments in hypnotism by Dr. Beard before a medical audience at the Waterloo Hotel in London."

Those who are best acquainted with Dr. Hammond's own controversies will be more able to attach a correct value to his opinion respecting the fairness and temperateness of this discussion. I will not venture to criticise Dr. Hammond's letter for the sake of the *tu quoque* argument; but as I was present by Dr. Beard's invitation at the experiments referred to, and as I have read the correspondence thereupon, I must beg you to allow me to express my entire dissent from Dr. Hammond's opinion as to the want of fairness, kindness, and consideration shown to Dr. Beard, and as to the insulting character of the questions proposed to him in Dr. Crichton Browne's letter.

At the *seance* itself, Dr. Crichton Browne was most punctilious in assuring Dr. Beard that the examination as to character to which his "trained subject" was subject, was no expression of doubt in Dr. Beard's own good faith; and, so far from the questions put in the letter being intended as insulting, they were evidently intended as the offer of a capitulation with all the honors of war. For Dr. Beard does undoubtedly owe to the gentlemen whom he called together to witness his experiments the apology of a confession that he had been deceived; and to say that it is insulting to ask for such an apology is but a new instance of abusing the plaintiff's attorney when there is no case.

Such tactics are not likely to succeed when the abused person is well known in the court for his habitual fairness, kindness, and consideration. Nor, indeed, has Dr. Beard as yet adopted such tactics; but in his absence and silence they have been adopted by one who assumes to know "with accuracy his character and mental methods," because, forsooth, no one has had more frequent occasion to differ from and to come into antagonism with him. But the wide circle of scientific men who know Dr. Crichton Browne's character and mental methods from a better point of view than such hostile experience, would, I am sure, vouch that he is incapable of intending insult to any one, and least of all to an American physician present in this town as a professional guest.

But enough of this personal question. Underlying it is one of far greater importance which it must not be permitted to conceal—a question affecting the very foundation of all experiments correlated with those of the Waterloo Hotel.

*What bearing has the moral character of the subject of experiment in hypnotism, and the synonymous or allied isms, upon the credibility of the phenomena?*

According to the answer we accept, Dr. Crichton Browne was right or wrong in exposing the character of Dr. Beard's trained subject, and in his subsequent questions to Dr. Beard. If it does not matter whether the subject of experiments upon consciousness is truthful and trustworthy, or one who

may be passing under a false name, according to Dr. Hammond's supposition, because "he may have stolen a sheep and is afraid of the myrmidoms of the law," then Dr. Crichton Browne's method was wrong, and his interrogations of the trained subject superfluous. Dr. Beard says, and Dr. Hammond approves, that "the moral character of the individual is no factor in the case; all that is requisite is a man or a woman of some kind." And Dr. Hammond goes still further in comparing the arguments against hypnotism with "those applied a hundred years ago to Jenner."

But such assumptions ignore the consideration that the phenomena of hypnotism are not merely physiological, but that they are also psychological, and that the question of consciousness or unconsciousness, which is invariably and inevitably involved in them, cannot be involved in such experiments as those by which Jenner established the value of vaccination.

It might be true that the worst man in the world, if he could be found, would be an hypnotic subject. But, if so, how could you distinguish his real state of hypnotism from the fraudulent representation of hypnotism which he might have assumed? Dr. Hammond writes as if he considered that the absence of the demonstration of pain from injury is a sufficient test; but one would have thought that his experience as an army surgeon among malingerers would have made him doubt this test. Have we any physiological test whether pain is felt or not—that is to say, in this inquiry, whether unconsciousness is real or feigned? I think not; and that the conditions of the inquiry compel us to take into consideration moral probabilities, and hence the necessity for some knowledge of the character of the subject.

I beg you to understand, sir, that I write these lines without prejudice. Dr. Beard and Dr. Hammond are not personally known to me, but the inquiry in which they are engaged is one in which I have taken a deep interest for a length of time, which may perhaps antedate even their experience. Forty-four years have passed since I saw Dr. Elliotson's hypnotised patients, the Misses Okey, in University College Hospital. They certainly were impostors when they declared that they saw Black Jack sitting on the foot of any bed on which a dying patient lay; but Dr. Elliotson believed in them, and sacrificed himself for his belief. Three or four years later I saw a number of hypnotised patients at Elliotson's private house, whom I did believe and still do believe were not impostors; but I arrived at this conclusion upon data of moral probability alone, and not from any physiological test. These data were that I found a number of epileptic patients coming to Elliotson's house daily to be hypnotised for the relief of their malady without fee or reward given or received, and without the slightest publicity. It was at a time when public interest in the matter had withered down to its roots, and Elliotson assured me that he never in his life had received a fee from or for any mesmerised patient; and I quite believed him. The circumstances did not present to my mind—which was quite sceptical enough—any appreciable motive for imposture.

Since then I have seen a good deal of mesmerism and of hypnotism, which is the synonyme for its simpler forms, and a great part of it, I am convinced, upon moral data, was flagrant imposture. Last year, however, I had an experience which brought Elliotson and his patients vividly back to my memory, in the observations which, through the kindness of Monsieur Charcot, I was able to make of his patients at the Salpetrière. Their abnormal states of unconsciousness seemed to be far more varied than those of Elliotson's epileptics, and I should be indeed surprised if the accomplished physician who was investigating them, had been willing to eliminate the moral character of each patient as no factor in the case.

When one thinks of the deceptions habitual to hysterical patients, of the stoical endurance of pain for the smallest reward or advantage which one sees in jugglers, malingerers, fakirs, etc., and when one reflects that states of consciousness are absolutely the secret of those in whom they occur, it does seem to me incontrovertible that phenomena connected with or attributable to abnormal states of consciousness cannot be appreciated with any satisfactory degree of exactness without some knowledge of the moral character of the hypnotised subject.

This principle may perhaps not be difficult to accept, but its practical application will certainly not be effected by mere politeness and circumlocution. In the meanwhile, I think that the profession in America will be inclined to endorse the vote of thanks to Dr. Crichton Browne which was passed in the hall of the Waterloo Hotel for his skill in unmasking an imposture which would have been contemptible if it had not been fraught with mischief in the example it might have set to the imitative and neurotic public.

I am, Sir, your obedient servant,

JOHN CHARLES BUCKNILL.

THE ALBANY, LONDON, ENG.

## HYPOPHOSPHITES VERSUS PHOSPHATES.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: A comparative statement of the amount of phosphorus contained in hypophosphites and phosphates, showing the superior power of hypophosphites over phosphates as a carrier of this element, and accompanied by a brief statement, showing *why* hypophosphites are the best assimilants of phosphorus.

(O=8.)

| Hypophosphites, 100 parts by weight | Phosphorus Per cent. | Phosphates, 100 parts by weight. | Phosphorus. Per cent. |
|---|---|---|---|
| Lime | 36.47 | Lime (bone phosphate) | 18.46 |
| Soda | 35.10 | Soda (cryst'd tribasic) | 8.61 |
| Potassa | 29.75 | Potassa (neutral tribasic) | 17.67 |
| Iron (ferrous salt) | 33.33 | Iron (ferrous tribasic) | 17.22 |
| Quinia | 8.33 | Quinia (neutral tribasic) | 4.20 |
| Zinc | 23.25 | Zinc (neutral tribasic) | 14.72 |

Also a table showing the percentage by weight of oxygen necessary to be absorbed by the phosphorus element of the hypophosphites to convert them into phosphates, while the latter, being already fully oxidized, absorb none.

(O=8.)

| 100 parts by weight of hypophosphites of oxygen. | Per cent. |
|---|---|
| Lime, to convert into phosphate, must absorb | 37.65 |
| Soda, " " " " " | 36.24 |
| Potassa, " " " " " | 30.71 |
| Iron, " " " " " | 34.41 |
| Quinia, " " " " " | 8.60 |
| Zinc, " " " " " | 24.01 |

As hypophosphites become oxidized, the relative proportion of phosphorus contained in the resulting compound becomes less by the increase in weight of the substance, and the power to absorb oxygen (to which property the therapeutic value of these salts are due) becomes less and less, until, when fully oxidized to the condition of phosphate, their efficacy as phosphorus assimilants cease, unless it can be proven that phosphates become partly deoxidized in the economy—a result highly improbable, when it is considered that the natural tendency of vital action is in the contrary direction, and that phosphorus is always excreted in its highest oxidized form (phosphate).

Even if it be admitted that phosphates *are* partly deoxidized in the body, this, if shown, only proves that the element ought to be in that condition to fulfil its physiological province, and would, of itself, be the strongest argument in favor of the use of hypophosphites, and thus anticipate natural requirements. While it will not be denied that all remedies should be *pure*, there exists a special reason why hypophosphites should be in that condition—this is, that impurities, particularly those of inorganic character, prevent the favorable action of these remedies. The presence of slight traces of impurity in many medicinal substances does not, as a rule, greatly interfere with their action; but this rule *does not* apply to the hypophosphites, as is evidenced by the experience of *all medical men* who have *obtained the best results* from their use. Physicians who have not sufficiently investigated this subject would be surprised at the difference in results, if they would use only chemically pure salts; nor should they be administered in *combination* with other remedies, as cod-liver oil, malt-extract, etc. These remedies, if indicated, should be given alternately, and not simultaneously with the hypophosphites.

Respectfully,
R. W. GARDNER.

NEW YORK, December 9, 1881.

## REGULATING THE PRACTICE OF MEDICINE.

TO THE EDITOR OF THE MEDICAL RECORD.

DEAR SIR: I would like to inquire whether the Pennsylvania law, disabling medical graduates from schools in other States can stand? If so, would it be well for other States to retaliate in kind? and would it be any less in harmony with our institutions if other State legislatures should specialize against graduates of Pennsylvania institutions? I do not wish to appear as asking these questions, but thousands of your readers would be glad if the RECORD would shed some light on this matter.

Yours very respectfully,
T. CLARKE MILLER.

MASSILLON, O., November 5, 1881.

[We do not understand that the Pennsylvania Act in any way disables graduates from foreign schools; it simply requires that such graduates shall satisfy the local authorities as to their competence, which is a perfectly proper regulation. Section 4 of the Pennsylvania Act is as follows: "*Any person who may desire to commence the practice of medicine or surgery in this State after the passage of this Act, having a medical diploma issued, or purporting to have been issued, by any college, university, society, or association in any other State or foreign country, shall lay the same before the faculty of one of the medical colleges or universities of this commonwealth for inspection, and the faculty being satisfied as to the qualification of the applicant and the genuineness of the diploma, shall direct the dean of the faculty to endorse the same, after which such person shall be allowed to register as required by Section 2 of this Act.*"

The foregoing is an almost exact reproduction of one of the sections of the New York Medical Act of 1880, and is perfectly constitutional and proper, for the several States have the undoubted right to regulate the manner in which any business, trade, or occupation shall be carried on within its borders, though it cannot, of course, discriminate against citizens of any particular State. The object of medical legislation in any given State is to provide that none but competent men shall practise there. If the colleges within the State graduate incompetent men, the State can revoke their charters; but this, of course, it cannot do as regards colleges without the State, and hence is obliged to adopt some other means of assuring competence in those who practise within its borders.

We believe it would be well for other States to incorporate similar provisions in their medical acts, though the idea of *retaliation* should not be thought of in this connection. It is simply a question of protection to the people against the influx of so-called graduates of institutions which, until of late, flourished in Pennsylvania, and against institutions nearly as bad, which, we believe, are still in operation in Ohio.—ED.]

# Obituary.

## DR. CHARLES H. STILLMAN,

PLAINFIELD, N. J.

CHARLES H. STILLMAN, M.D., of Plainfield, N. J., died at his residence in that city, December 11th, of heart disease. He was born in Schenectady, N. Y., January 25, 1817, graduated at Union College in 1835, then came to New York, and entered the office of the late Prof. Edward Delafield, with whom he studied medicine, graduating from the College of Physicians and Surgeons in 1840.

For two years after his graduation he was physician and oculist to the Eastern Dispensary, but poor health obliged him to leave New York, and he settled in Plainfield, where he continued in practice until his death.

He was a permanent member of the American Medical Association, a member of the New Jersey State Medical Society, and ex-president of his County Medical Society, but his chief ambition was connected with the development of the public school system, having founded the first public school of his State, and at the time of his death had held the position of President of the Board of Education in Plainfield since its formation. He had been for many years district surgeon of the Central Railroad of New Jersey, and possessed great skill as a surgeon. He had been identified largely in the growth and prosperity of Plainfield for the past forty years of his residence, had been its mayor, and was a director in several of its banks and other institutions.

He leaves one son in the profession, Dr. Charles F. Stillman of this city.

# New Instruments.

## A VAGINAL DEPRESSOR.

By HENRY J. GARRIGUES, A.M., M.D.,

NEW YORK.

NOMINALLY the different kinds of specula may be counted by scores, but going by principle there are scarcely more than three: the tubular (*e. g.* Ferguson's), the bi- or multivalvular (Cusco's, Nott's, Bogeman's, Byrne's, Meadows', etc.) and the univalvular. The tubular and valvular forms were known to the ancients; the univalvular, in connection with the left-lateral position of the patient, by which gravitation and air-pressure are utilized, is the great invention of Dr. J. Marion Sims which has opened new fields for operative interference, and given, for the first time, a view of the vagina and part of the uterus in their natural relations.

The tubular speculum is the most imperfect of all. It is not only unfit for almost all operations, but it gives in many cases so erroneous an idea of the vaginal portion, that Dr. Emmet would scarcely have been able to discover the laceration of the cervix, and much less point out the surgical remedy for it. It pushes the uterus far away, out of reach of the finger, it shows only a small part of the vagina at a time, and it is difficult to cleanse. It seems to me that the time has come to do away altogether with this antiquated instrument, which in every respect is inferior to the other kinds at our disposal.

Of all specula with two or more valves I prefer Cusco's. It is easily introduced, it gives a good view of the vaginal portion, and, in many cases, of a part of the cervical canal; it keeps, in most cases, the folds of the vaginal wall sufficiently on the stretch to prevent them from bulging in between the valves, and hiding from view the deeper parts. It is not expensive, and it is easy to clean. But, like all multivalvular specula, it stretches the roof of the vagina a good deal; nay, so much that sensitive patients with some kinds of pelvic inflammation cannot stand it. Except in such cases, I find Cusco's speculum the most convenient in the great majority of office patients.

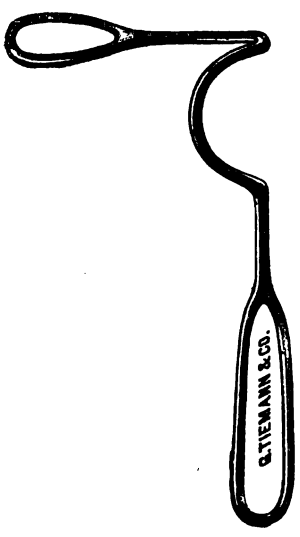
The other multivalvular specula present each some advantages over Cusco's, especially in regard to greater operations.

The most universally useful speculum is Sims'. I do know any operation on the vagina or uterus in which it cannot be used, and in some it is indispensable. Even in common private and dispensary practice involving diagnosis and application of drugs to diseased parts, it presents immense advantages. It merely lifts the veil which covers the vaginal portion. It allows us to use the sight and the touch simultaneously. It gives less pain than any other, and it is the easiest of all to clean.

The only drawback in this admirable instrument is the necessity of employing not only an assistant, but one who has particular experience with its use. An inexperienced person cannot hold it in such a way that the surgeon can do his work undisturbed. It is claimed that the necessary presence of a third person is a moral guarantee; but the fact is that many patients, and that some of the most prude, prefer to be alone with the physician during a vaginal inspection, and few are the physicians who have so large a gynecological practice that they can afford to keep a nurse for this purpose alone. The great majority of general practitioners, and many gynecologists, use therefore other specula, except for certain operations. Many contrivances have been invented by Emmet, Noeggerath, Pallen, J. B. Hunter, Erich, Studley etc., in order to make Sims' speculum self-retaining and render the assistant superfluous. I have myself derived much benefit from Erich's speculum which takes the shoulder of the patient as the fixed point (*Baltimore Physician and Surgeon*, September 1, 1874). But all these instruments are expensive, take much time to adjust and to clean, and frighten the patient more or less. They are therefore not adapted to general use for simple examinations or applications.

In many women who have had frequent sexual intercourse, nothing more is required, to see and to treat the common diseases of the vagina and cervix-uteri, than to put the patient in Sims' position and use his speculum; but in other cases it is necessary besides this, to move the cervix with a hook or depressor. In this case both hands of the physician are in use, and it becomes impossible for him to do more than look at the parts.

In my dispensary-practice where I have quite a number of patients to treat within a short time, and no kind of assistance, I found that Sims' speculum served a better purpose than anyother, and in the cases alluded to, I helped myself for a long time by applying a curved pair of forceps to the anterior lacunæ, and hold it with the left hand, together with the speculum; but the forceps made both inspection and application of drugs to the cervical canal troublesome. Lately I was shown a new tongue-depressor, where the shaft was deflected to one side so as to lie in one of the angles of the mouth. As soon as I saw this instrument it struck me that, by some modifications, it would make a most excellent vaginal depressor to be held in the same hand as Sims' speculum. Thus the instument represented in the drawing was originated, and since, I have found in practice that it works admirably. It is used in the following way:




The patient being in Sims' position, and his speculum having been introduced, and being held by the full left hand, the knuckles turned upward, the patient is directed to elevate the right nates. The depressor is seized with the right hand. Its heart-shaped anterior end is applied to the anterior lacunæ, and slightly pressed against the anterior vaginal wall. The arched part is turned upward, the handle is placed in front of the mesial part of the speculum, *and the two together are held with the left hand.* The arc allows an unobstructed view, and the right hand is free, so that it can be used for applying instruments to the uterus. Since there are no screws or joints, both the speculum and the depressor are easily introduced, easily withdrawn, and easily cleaned. The depressor and the speculum together, cost less than most bi- or multivalvular

specula. Thus everybody is enabled to secure all the advantages of Sim's speculum in every-day practise without the necessity of employing a skilled assistant. If the use of the patient's own hand to hold up the nates should be objectionable, any assistant, unskilled as well as skilled, can do it for her.

It was to be expected that similar contrivances had been invented by others. When I showed mine in the New York Obstetrical Society, Dr. Frank P. Foster exhibited an instrument which he occasionally had used, during a couple of years, for the same purpose, and Dr. Leopold Meyer, of Copenhagen, has shown me another, which has been invented by the Danish physician Fanoe. I do not lay claim to have made a great invention, and I will not dispute anybody's priority; but I am sure that if the profession will try the instrument here described, they will find it as useful as simple.

137 West Twenty-second Street.

## ARMY NEWS.

*Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from November 27, 1881, to December 10, 1881.*

Murray, Robt., Colonel and Surgeon. Medical Director, Military Division of the Missouri. The leave of absence granted him in S. O. 100, October 5, 1881, Military Division of the Missouri, extended two months. S. O. 272, A. G. O., December 2, 1881.

Summers, Jno. E., Lieut.-Colonel and Surgeon. Medical Director of the Department. Granted leave of absence for 25 days. S. O. 123, Department of the Platte, December 1, 1881.

Wright, P. J., Major and Surgeon. The leave of absence granted him in S. O. 229, November 8, 1881, Department of the Missouri, extended 20 days on Surgeon's certificate of disability. S. O. 123, Military Division of the Missouri, December 2, 1881.

Lauderdale, J. V., Capt. and Asst. Surgeon, McPherson Barracks, Ga., before complying with par. 3, S. O. 124, C. S., Department of the South, granted leave of absence for one month, with permission to leave the Department. S. O. 136, Department of the South, December 8, 1881.

Perley, H. O., Capt. and Asst. Surgeon. At the expiration of his present leave of absence report in person to the Commanding General, Department of the East, for assignment to duty. S. O. 274, A. G. O., December 5, 1881.

Johnson, Richard W., First Lieut. and Asst. Surgeon (recently appointed), to report by letter to the Commanding General, Department of Dakota, for assignment to duty. S. O. 272, C. S., A. G. O.

Small-Pox in the West.—The State of California is reported to have quarantined against Chicago in order to prevent the introduction of small-pox. Trains on the Central Pacific Railroad had introduced small-pox into five different counties in California.

The Chicago health officers say that if California quarantines against Chicago, Chicago will have to quarantine against New York.

In this city there have been over 270 deaths from small-pox in the past six months, but only about 75 of these occurred in the past three months (ending December 10th).

# Medical Items and News.

Contagious Diseases — Weekly Statement. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending December 10, 1881.

| Week Ending | Typhus Fever. | Typhoid Fever. | Scarlet Fever. | Cerebro-spinal Meningitis. | Measles. | Diphtheria. | Small-pox. | Yellow Fever. |
|---|---|---|---|---|---|---|---|---|
| Dec. 3, 1881. | 0 | 43 | 220 | 2 | 84 | 93 | 83 | 0 |
| Dec. 10, 1881. | 0 | 17 | 186 | 1 | 88 | 112 | 17 | 0 |

Practising without a Diploma. — Edward B. Lighthill, of No. 6 West Twenty-ninth Street, was fined $100 recently for practising without a diploma. Five other cases have been indicted by the County Medical Society.

The New York Medico-Legal Society held its stated meeting December 7th. A paper was read by Dr. J. G. Johnson, of Brooklyn, entitled "Anæsthetics Medico-legally Considered." Regarding the question whether it was right to employ anæsthetics to detect fraud, as in cases where men feigned deafness or crooked spine, etc., to escape detection. The lecturer held that such practices were wrong and reprehensible when done against the will of the prisoner, as it was compelling him to make admissions which would criminate him.

The discussion of the paper was postponed to allow the members to proceed to the annual election of officers, but it was considered of so much importance that it was determined to make it a special subject of discussion at the February meeting of the society. The balloting for officers then began. The four candidates for President each received twenty-eight votes, and the election of that officer was postponed until the next meeting. The following are the other officers elected: First Vice-President, Dr. C. A. Leale; Second Vice-President, D. S. Riddle; Secretaries, Dr. George W. Wells, Charles P. Bull, and Dr. J. F. Chauveau; Librarian, Max F. Eller; Treasurer, E. C. Harwood; Chemist, Dr. C. A. Doremus; Curator and Pathologist, Dr. William R. Birdsall; two Trustees to fill vacancies, Drs. C. S. Wood and J. T. Davies; Members of the Permanent Commission to fill vacancies, Austin Abbott, Dr. R. J. O'Sullivan, and Dr. Wooster Beach.

A Bust in Marble of Dr. G. A. Otis, U. S. A., has been placed in the Army Medical Museum by his brother officers.

On "Hospital Saturday" nearly 1,000 ladies sat in the London streets in charge of the collecting boxes.

Dr. Patrick J. Clarke.—The death of Dr. Patrick J. Clarke, of this city, occurred on December 5th. For more than twenty years the deceased had been attending physician to St. Vincent's Hospital, and the esteem in which he was held at that institution has been expressed by a resolution of appreciation and regret passed by the Medical Board. Dr. Clarke was born in Ireland in 1826. He came to this country in 1845. He graduated from the College of Phy-

sicians and Surgeons in 1849, and remained in the active practice of his profession up to the time of his death. Dr. Clarke served with credit as an army surgeon through three years of the war of the rebellion. He accompanied the Sixty-ninth Regiment, New York Volunteers, to the war, remained with it as long as the regiment was in service, and was subsequently stationed for some months at Fort Hamilton. Dr. Clarke was widely known and esteemed by his brother practitioners in the city.

DR. JOHN H. STEVENS, Stonewall Jackson's principal surgeon in the late war, was found dead in his office at Dallas, Texas, November 25th. He was a Virginian, but had lived at Dallas since the war.

PHOTOGRAPHS OF THE LEADING MEDICAL MEN present at the International Congress are to be published by Mr. Barraud. As many as five hundred pictures have been prepared.

SIR ERASMUS WILSON.—Erasmus Wilson, President of the Royal College of Surgeons, England, has been knighted.

ANOTHER ASYLUM CONFLAGRATION.—The State Institution for Idiotic and Imbecile Youths, near Columbus, O., was recently burned. The fire fortunately occurred at meal time, and all the inmates were marched out without trouble. This is the third asylum that Ohio has lost by fire.

DR. SAMUEL A. GREEN, the City Physician, has been nominated for Mayor of Boston by both the Republican and Citizens' convention. This is a high yet deserved tribute to a much esteemed physician.

NOTE OF CORRECTION FROM DR. HUGHES.—Dr. C. H. Hughes, of St. Louis, writes: "In your report of the proceedings of the Tri-State Medical Society I am reported as speaking highly of static or franklinic electricity as a therapeutic agent, whereas I commended only the constant galvanic current as the best tranquillizer and tonic in neuralgic and hyperæmic states. I have no such experience with franklinic electricity as would justify an opinion."

PROF. L ELSBERG, M.D.—The trustees of Dartmouth College have elected Dr. Louis Elsberg, of New York, Professor of Laryngology and Diseases of the Throat in the Dartmouth Medical College. Dr. Elsberg having resigned the professorship he has heretofore held in the medical department of the University of the City of New York.

THE JOURNAL OF NERVOUS AND MENTAL DISEASES, edited during the past eight years by Drs. Jewell and Bannister, of Chicago, Ill., has been transferred to Dr. William J. Morton, of New York, who will have active editorial control of it, and will be aided by a number of prominent neurologists in this and other cities.

ADMINISTRATION OF TINCTURE OF IRON IN CAPSULES.—Dr. J. H. Grimes writes (*Medical and Surgical Reporter*) that a most successful and agreeable way of giving the muriated tincture of iron is to drop it into an empty capsule, the cap is then replaced, and the dose swallowed without any trouble. Some water should be taken at the same time.

ALBUMEN WATER.—This has been recommended as a good substitute for milk and beef-tea in cases where these substances disagree with the patient, or could not be obtained. The preparation is largely used by the French. It is made by dissolving the white of one or more eggs in a pint or two of water, sweetening with glycerine, and flavoring with orange-flower water. It may be taken cold and used *ad libitum*. It is an excellent food in typhoid fever and typhoid dysentery.—*Chemist and Druggist.*

THE KENTUCKY STATE MEDICAL SOCIETY has offered a prize of $50 for the best essay embodying the results of original experimental research, or original clinical observation on the nature, mode of propagation, pathology, and treatment of scarlet fever. The competitors must be members of the State Medical Society.

A NEW dwarf was exhibited recently at the Academy of Medicine, Paris. He is thirty inches high, weighs eighteen pounds, and is fourteen years old. His head was pronounced by M. Jules Guérin to be an example of "microcéphalie généralisée." His intelligence is about the average of boys of his age. His parents are French peasants and are well grown people.

STATIC ELECTRICITY AS A GALACTAGOGUE is recommended by Dr. W. R. D. Blackwood (*Philadelphia Medical Times*). He bases his belief on successful results in three cases which he tried. Sparks were passed through the breast daily.

A CORRECTION IN DR. THOMAS' CASE OF DOUBLE UTERUS.—A misleading statement was made in our report (December 3, 1881, p. 626) of Dr. Thomas' case of double uterus. It was reported that "Attention was drawn to the possibility of future insemination through the abdominal opening."

In relating the history of the case to the class at the College of Physicians and Surgeons, a by-stander asked, whether, this being an uterus with an ovary attached, if an ovum were deposited within it, impregnation of that ovum would be possible, to which Dr. Thomas replied affirmatively.

ALUMNI ASSOCIATION, MEDICAL DEPARTMENT, UNIVERSITY OF THE CITY OF NEW YORK.—The eleventh reunion dinner of the Alumni will take place at Delmonico's, corner of Fifth Avenue and Twenty-sixth Street, on Thursday, January 12, 1882, at 6.30 o'clock P.M. The price of tickets is ten dollars each, and they may be obtained of any member of the committee or of the secretary. The sixteenth annual business meeting for the election of officers, and for the transaction of such other business as may be presented, will be held at the same place on the same evening at 6 o'clock. T. R. Varick, M.D., President, 239 Washington Street, Jersey City; Frederick R. S. Drake, M.D., Secretary, 8 West Thirty-fifth Street.

A HOSPITAL SUNDAY IN BALTIMORE is wisely advocated by the *Maryland Medical Journal.*

EXTIRPATION OF PAROTID GLAND.—Dr. A. C. Post writes: "In the report of the proceedings of the New York Academy of Medicine, in the number of the RECORD for December 3, 1881, I am incorrectly represented as saying that in a case of extirpation of the parotid gland which I had reported, it was not known positively that all of the gland was removed. The statement which I made was that in undertaking the operation I did not know that the tumor involved the parotid gland, but I had no doubt in the end that I had removed the gland. The external carotid artery and the facial nerve were imbedded in the tumor, and portions of them were necessarily excised."

# Original Lectures.

## METHODS OF DIAGNOSIS IN DISEASES OF THE NERVOUS SYSTEM.

By E. C. SEGUIN, M.D.,

CLINICAL PROFESSOR OF DISEASES OF THE NERVOUS SYSTEM IN THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

(Phonographically Reported for THE MEDICAL RECORD.)

### LECTURE II.

GENTLEMEN: In my last lecture I spoke of the objective part of a diagnosis, and pointed out in brief the principal disturbances of function which we are able to recognize in an examination, and exhibited and described the instruments by means of which we detected and measured the degree of such disturbances. I referred to certain methods of diagnosis which fall within the province of other specialties, more particularly the use of the ophthalmoscope. To-day I wish to extend my remarks to certain other methods of diagnosis, a knowledge of which is essential to the success of the nervous specialist. Among these may be mentioned auscultation and percussion in the physical examination of the chest and abdomen, the use of specula and tuning-forks in the examination of the ear and testing the hearing, the use of the laryngoscope in the examination of the larynx, the chemical and microscopical examination of the urine, and so on.

Of course the neurologist cannot be expert in all these methods of examination; but, on the other hand, he cannot be expected to make a satisfactory study of his patients without a certain degree of skill in these diagnostic manœuvres. With respect to urine, it is especially important that he should be able to make a satisfactory examination of it. I may say that I have often had occasion, during the past five or six years, to prove the dependence of an obstinate and severe form of headache upon the existence of contracted kidneys. Detecting the presence of an excess of phosphates, or of an excess of urea, or the condition known as oxaluria, is often a very important factor in nervous diagnosis. It is not sufficient to make a single examination of a sample of urine in a test-tube, by boiling it and adding acid, but the amount of urine secreted in twenty-four hours should be known, and, from repeated examinations of it, the existence or non-existence of morbid conditions noted.

By an examination of the genital organs, both male and female, much important information may be derived.

A knowledge of the presence of versions, flexions, or tumors of the womb, ovarian disease, deep-seated stricture, or narrow anterior urethra, and many other abnormal conditions of the genital tract, will lead to the adoption of appropriate treatment; whereas, without such knowledge, drugs may be prescribed and electric batteries used, for an indefinite time, without relief.

I next propose to speak of the principles of diagnosis, and will divide the disorders to be diagnosticated into two classes, organic and functional. This division presupposes a difference in the method of examination. The logical difference between the two methods of study is very marked. The complete and satisfactory recognition of organic diseases of the nervous system involves a triple diagnosis. It is arrived at inductively by means of the history given by the patient, by means of the testimony of friends, by means of the various methods of physical examination, and, to a certain extent, deductively by knowledge you have acquired from experience, books, etc.

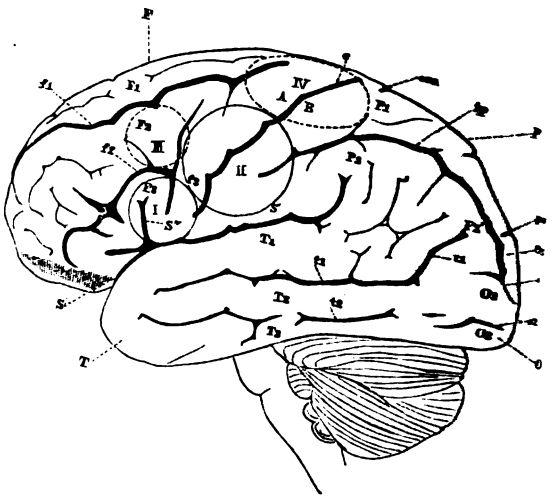
The first diagnosis is that of the symptoms, and these may be considered as constituting what the Germans call the "symptom-group." Second, we make a diagnosis of the location of the lesion, and it is this diagnosis which is just now interesting observers most. In the third place, we have to determine the nature of the lesion, which is, perhaps, of the greatest practical importance to the physician. We first determine the symptoms, next the situation of the lesion producing the symptoms, and afterward try to determine the pathological nature of the lesion.

The first diagnosis is made exclusively from a history of the case and an objective examination. We learn from the statements of the patient and friends, and an ocular examination, what has taken place during the few days or weeks preceding. We determine, by methods pointed out in the last lecture, whether there exists paralysis, spasm, ataxia, anæsthesia, and so on. The mental symptoms to be noted are loss of memory, delusions, or uncontrollable manifestations. We thoroughly overhaul the person of the patient physically and psychically, and we determine what functions are well performed, and which are interfered with. During the next few weeks you will have in every lecture an illustration of how to make this diagnosis: for example, a patient will come into the clinic complaining of weakness of the muscles of the face, arm, and leg, upon one side of the body. We determine the existence of this condition by the testimony of the patient and his friends, by inspecting the patient, by the application of tests which have already been described to you, and from the data thus collected decide that the case is properly one of hemiplegia. Again, a patient may come in complaining of weakness of both legs, while the arms are normal, and we decide that he is suffering from paraplegia. A patient presenting with no paralysis and no anæsthesia, but with an inability to direct the movement of his legs, we say is suffering from inco-ordination or ataxia. If a patient presents with one eye turned outward and a drooping of the lid, we designate this condition as one of ptosis with strabismus. If a patient has loss of sensibility, we call it anæsthesia, and ascribe particular names, in accordance with the distribution of the anæsthesia. When anæsthesia of one-half of the body exists, we call it hemi-anæsthesia. If, upon examination, vision is found to exist only in one-half of the visual field, we call the condition one of hemiopia. In this manner we indicate the condition of the various organs throughout the body, and determine in what way they differ from the normal, and to the conditions found to exist we give certain names which represent the symptom-group. Sometimes we are only able to discover a single symptom, and have to go on to the next diagnosis. My observations have led me to believe that, in making the first diagnosis, the testimony of the patient is too frequently used as a sufficient guide, and pains are not taken to go over the body and carefully determine the extent of paralysis, ataxia, or areas of anæsthesia, and make a record of what is found. There is often a lack of definiteness in examinations of nervous cases which practitioners would

not allow in chest diseases. From the time of Laennec no physician has considered his examination of the chest complete without having determined the nature and character of the signs, so that he could tell another physician what he had seen or heard, in such a way as to lead him to a correct diagnosis. We are attempting to apply the same exact method to the study of nervous diseases, and are making very great progress.

The second diagnosis, that of the location of the lesion, is of importance. It is not directly dependent upon observations made with our eyes, instruments, etc., but upon anatomical and physiological knowledge. It is very seldom that a nervous lesion is visible, except in cases resulting from injury or external violence. We have to determine the situation of the lesion from the symptoms present, by means of our acquired knowledge of physiology and anatomy. Hence it is that exact and minute anatomical knowledge is more essential for the diagnosis of nervous diseases than for that of any other.

I will take up some of the symptom-groups of which I spoke a few moments ago, as determined hypothetically in my remarks: for example, that of hemiplegia. We revert to our acquired knowledge concerning the nervous supply of the paralyzed parts derived from the spinal cord and brain. We also revert to the experiments made upon the central nervous system of higher animals within the last fifteen years, and our empirical knowledge of lesions discovered after death in cases of hemiplegia studied during life. For the present I will rely more particularly upon anatomical and experimental data. We know that the limbs of one side of the body receive innervation from the opposite side of the brain. You will hear it said that this law is not valid; but I say to you it is a good law, and a knowledge of it will be of great help to you in the study of nervous diseases. The few exceptions which are quoted in support of the idea of its invalidity are capable of many interpretations which leave the law untouched for all practical purposes. I propose to discuss this matter of the crossing of nerve-fibres from one side to the other, in a subsequent lecture. Bearing in mind, then, that either side of the body is innervated from the opposite side of the brain, we at once locate the lesion on the opposite side from that in which the paralysis is found to be present in our hypothetical case of hemiplegia. Partly from the study of anatomy, partly from the study of embryology, and partly from a knowledge of what recent experimental physiology has taught, we know that the whole of one side of the brain has not the power of moving all the opposite side of the body. Let us suppose a case of left hemiplegia with the lesion in the right hemisphere. I may remark that the whole right hemisphere is not connected with the opposite cheek, arm, and foot. Recent experiments have shown that a relatively small part of the right hemisphere has power over the left cheek, hand, and leg, and this part of the hemisphere is in the median region, and embraces a small number of convolutions—certainly not more than half of them. We have records of positive knowledge, to the effect that the anterior and posterior extremities of the hemispheres have no motor power over the opposite side. Still basing ourselves upon anatomical researches and physiological experiments, we know that the muscles of the left side of the face are innervated by a small part of the right frontal lobe; we know that the upper extremity is innervated by a small part of the brain known as the ascending frontal and parietal convolutions. We further know that the part of this right hemisphere which is connected with the leg is situated at a different point, nearer the median line, near and in the longitudinal fissure, and more posteriorly. In other words, we have determined with great accuracy the motor area of the right hemisphere, and the centres for the movements of the cheek, arm, and leg. With respect to the sensory function of the hemisphere our knowledge is not so exact, but we know that loss of sensibility on one side of the body indicates a lesion in the opposite half of the brain; that right hemi-anæsthesia indicates a lesion in the left hemisphere—one situated in all probability in parts posterior to the motor area. These are not theoretical



The above woodcut is modified from Ferrier: letters and figures the same.—S, fissure of Sylvius; c, fissure of Rolando; po, parieto-occipital fissure. A, ascending frontal gyrus; B, ascending parietal gyrus; $F_3$, third frontal gyrus; $P_2'$, gyrus angularis. Circle I., seat of lesions which (on the left side) cause aphasia. Circle II., seat of lesions which convulse or paralyze the upper extremity of the opposite side. Dotted Circle III., seat of lesions which probably convulse or paralyze the face on the opposite side. Dotted Oval IV., seat of lesions which convulse or paralyze the lower extremity of the opposite side. These districts receive their blood-supply from the middle cerebral artery.

guides; they are valuable life laws, and there has not a year passed, within the last five years, that I have not seen cases illustrative of them, and verified them by post-mortem examination. Bearing upon this point, I may say that I published two cases this year,* in which the diagnosis was made, by means of a knowledge of these laws, with such accuracy that we were within half an inch to one inch of the actual seat of the lesion. In a number of my cases the lesion has been found to be situated exactly where it was diagnosticated during life. Records of similar cases may be found in American, English, and Continental journals generally.

We are also able to locate, upon similar anatomical and physiological principles, lesions of the spinal cord. In paraplegia we can determine the height of the lesion quite accurately, by means of our knowledge of the points at which nerves are given off from the spinal cord. To quote a case: a patient falls and receives a dislocation and fracture of the seventh cervical vertebra, compressing the cord at this point. The patient at once presents anæsthesia and paralysis below the clavicles and in the distribution of the

* Journal of Nervous and Mental Diseases, July, 1881, p. 516.

ulnar nerve. Now, we know, from anatomical and some curious electrical * examinations, that the fibres of the ulnar nerve arise from the lower part of the cervical enlargement, and that its trunk is made up by the last cervical and first dorsal nerves. Hence it is that compression of the cord at this point gives rise to paralyses of parts supplied by this nerve. When I come to speak of the diseases of the spinal cord, I will give in detail the rules for determining the height of any lesion, by means of which a diagnosis of extreme accuracy can now be made. We can locate a lesion in the anterior and posterior portions of the cord, with reference to the white and gray matter. We know that paralysis, accompanied by great muscular atrophy and degenerative electrical reactions, is due to a lesion in the anterior gray matter of the spinal cord. We know that in ataxia of the legs and arms, in which there is no true paralysis, the lesion is strictly limited to the posterior white columns. A patient comes in with a stiff gait, with crossing of the legs, but without anæsthesia or ataxia; we are certain that the lesion is in the lateral columns. In peripheral paralysis, as, for example, when due to injuries of the nerves, a diagnosis is usually very easy to make, for we have an injury or scar to guide us. Or a nerve may be cut in a surgical manœuvre, and we can at once determine the seat of the lesion. But, in some cases, the seat of the lesion is not apparent, and we must judge of it by medical logic. In the diagnosis of such cases we are very much helped by an anatomical law, which you probably have not found in your books, and which summarizes the distribution of the sensory and motor filaments of nerve-trunks. I refer to the law of Van der Kolk, namely, that a spinal nerve gives its motor branches to the muscles as instruments of motion, and its sensitive branches to the part moved.† In other words, throughout the body the sensitive branches of a mixed nerve run to the part of the skin which is moved by the muscles receiving motor filaments from the same nerve-trunk. It is very easy to call to mind examples of this law. A sciatic nerve, for example, sends its sensory filaments to the calf of the leg and the foot, which parts are moved by the posterior thigh-muscles and both sets of tibial muscles, which receive their motor filaments from the sciatic. In the arm the musculocutaneous nerve gives motor fibres to the biceps and brachialis anticus, and its sensory filaments go to the integument of the forearm, which is the part moved by the above-named muscles.

Wherever you study this law, you will find it absolute. You may meet with some apparent exceptions, but they are only apparent. An apparent exception is found in the head, where the trigeminus plays the part of sensory roots for most of the cranial motor nerves. Studied in the light of this law, a patient presenting anæsthesia of the little and ring fingers, and outer part of the palm, with paralysis of the interossei and inner half of the thenar group, has a lesion of the ulnar nerve, probably above the wrist. If the flexor carpi ulnaris is paralyzed, the lesion is certainly above the elbow. Again, paralysis of the extensors of the carpus and fingers, with anæsthesia of the dorsum of the hand on its radial side, indicates a lesion of the musculo-spiral nerve.

We now come to the third diagnosis—that of the nature of the lesion. This should not be made until the others have been determined carefully; and, here again, we use entirely different principles of logic. This diagnosis is more empirical—more uncertain. The third diagnosis can be best made by the physician who has had the greatest experience with disease in general; and here comes in the strongest argument for the postponement of special practice until you have acquired a thorough knowledge of general pathology. It is just here that one realizes the insufficiency of normal anatomical and physiological study. It makes no difference what the symptoms are, or where the lesion is located, for that does not determine what the lesion is. Take, for example, a left hemiplegia with pafalysis of the left cheek, arm, and leg. The patient may have a tumor, a patch of softening, a hemorrhagic focus, a syphilitic formation; he may have what is exceedingly rare—local anæmia, and the only way of determining which one of these is present is by our knowledge of pathology. To this end, we determine the temperature, pulse, and other symptoms; the conditions of the arteries; the presence or absence of the signs of degeneration throughout the body, and the presence or absence of the signs of contracted kidneys and heart disease. To determine with certainty that a hemorrhage has taken place in the brain, you must ascertain the previous diathesis and the general condition of the body. The rupture of vessels in the brain is a mere accident; the same statement may be made in regard to softening. This latter condition is often due to organic cardiac disease, producing embolism of a healthy cerebral artery, and sometimes, also, of arteries at the periphery, which are more difficult to make out. It is likewise caused by local obstructions in the arteries of the aged or prematurely old, and of syphilitic subjects. The same general rules apply to the study of diseases of the spinal cord. The nature of the lesion is to be determined by the pathological condition of the patient, and by means of empirical knowledge acquired by post-mortem examinations. For example, if a child presents with enlargement of the head and separation of the sutures, we know, as a matter of experience and post-mortem examination, that there is internal hydrocephalus, the most common cause of which is tubercle; and we also say that it is probable that the tubercle is compressing the aquæductus Sylvii. In the same way we determine the difference between syphilitic and non-syphilitic subjects.

I go on, now, to the diagnosis of the functional disorders of the nervous system. This subject does not admit of as systematic a presentation as the former. In many of the functional diseases of the nervous system, we know very little about their pathology, so we do not complete the third diagnosis; and as the disease is functional, we need not consider the second. For example, chorea is an obvious symptom which we can recognize at a glance. If we attempt to localize the lesion or disease, we cannot go any farther than to make the statement that a functional lesion is situated in the brain, and that it is very probably a cerebral affection. We make this statement upon the remarkable fact that the disease is often hemiplegiform. We cannot go any farther, and, as regards the lesion of chorea, we are entirely in the dark. We can only offer speculations based upon a few post-mortem examinations, which, in my opinion, are worth very little. The same is true of epilepsy,

* In two or three cases of spinal irritation I have noticed that placing the cathode over the sixth and seventh dorsal vertebræ, with the anode near by upon an indifferent part, and passing a strong current, the patient, though devoid of any anatomical knowledge, has described a prickling sensation in the little and ring fingers of each hand. This is evidence of the cathodal excitation of the origin of the ulnar nerve.

† Schroeder Van der Kolk: On the Minute Structure and Functions of the Spinal Cord and Medulla Oblongata. Translation of the New Sydenham Society, pp. 6, 7. London, 1859.

hysteria, and neuralgia. The best we can do is to state the symptoms definitely, and not attempt any rigorous diagnosis of the disorder, or try to determine the nature of the lesion, in the same sense as we do lesions in organic affections. But yet there is a diagnosis to be made of the nature of the lesion, or, as I would put it, the condition of the patient. This consists, after we have determined that the patient has chorea, epilepsy, or neuralgia, or "neurasthenia," of making an inquiry into his general condition, the state of the circulation, arterial tension, and, in some cases, the action of the heart, and the condition and mode of action of certain organs which we know, from empirical knowledge, to be connected with functional disorders. For example, within the last seven years we have learned, with great positiveness, that certain cases of headache are due to straining of the eyes. In studying cases of headache, especially cases of long standing, it is desirable—I may say imperatively necessary—to study the condition of the eyes. Thanks to the labors of Drs. Weir Mitchell and William Thomson, of Philadelphia, we have been able to relieve a large number of cases of "bad head," as I call them. In the same way, with reference to hysteria, we examine the patient, not simply for anæmia and mal-nutrition, but also for uterine and ovarian disease or vulvar irritation. This will lead us many times to a correct understanding of the case. There is quite a large class of cases in which the symptoms are nervous, the patients experiencing a curious depression, pain in the back and head, aching in the limbs, and many other symptoms, chiefly sensory, all of which we are generally unable to refer to any definite cause, and they are known under the name of "neurasthenia." This name is all very well, provided we go farther. One theory as to the cause of these symptoms—and it is held by some very respectable authorities—is that they are due to a variation in the amount of blood in the spinal cord and brain. I myself confess to very little faith in this view. I think it can be shown that there can be but slight changes in the amount of blood present in the spinal cord, and that these are not accompanied with symptoms. My own experience is that the symptoms are often produced by conditions of general mal-nutrition, which can be classified conveniently under the heads of lithæmia, or sub-oxidation of the tissues. Some other cases are due to weak eyes, some to ovarian diseases, some to the use of tobacco, sexual excesses, etc. Cases of so-called hyperæmia of the brain, now so fashionable, are to be studied in the same way from the standpoint of the general physician; nearly all such cases being, according to my experience, resolvable into instances of lithæmia, eye-strain, cardiac disease, renal disease, irritation from the sexual organs, etc.; leaving exceedingly few cases of hyperæmia, if any. The diagnosis of lithæmia is to be obtained by the examination of the urine, and the usual method of doing this is very misleading. If the patient is told to bring a bottle of his urine, the first that is passed in the morning, it is found of high specific gravity, high color, acts upon litmus paper forcibly, and may deposit urates; or the microscope shows, in a few hours, oxalate of lime. To judge in this way from one specimen, I believe to be a most superficial practice. I am not willing to say that a patient is a subject of lithæmia or oxaluria, unless I have examined specimens of urine on successive days, for the reason that the urine varies from day to day, and during each day, owing to the varying conditions of the body. One or two examinations are of very little help. In my practice I make a number of examinations—three or four—of urine passed morning, noon, evening, and at bedtime; and I am unwilling to use the term oxaluria unless I find this condition indicated by most of the specimens. By this means the average condition of the urine in twenty-four hours can be determined.

I will make a few remarks in regard to taking the history of a case. Very few medical men take good notes. It is a very difficult matter to write a history so that different medical men, reading it, would come to the same conclusion in regard to the case. Of course we first obtain the patient's story. We have to guide the patient, so that we can arrange the facts which he gives us in some logical order. It is desirable, in many cases, to give some illustration as to the behavior of the patient, mental manifestations, etc. A few words with the friends of the patient, as to what they have observed, is often serviceable, and sometimes it is well to question the patient alone. In taking down the notes we form a dim mental outline of the diagnosis, in advance. It seems impossible to take a history without doing this. We next carefully record the objective symptoms presented by the patient, and thus reach what I have termed the first diagnosis. In some cases we may locate the lesion at once from the symptoms, and even determine the nature of the lesion. This is by no means infrequent, and the taking of the history will be the only time you need to give to the consideration of the case. In other instances you have to go on, step by step, and carefully determine the points in the diagnosis which I have referred to. We are often, in the course of this preliminary and semi-conscious notion of the nature of the case, led to doubt the patient's statements, and it is well to make a mental memorandum of these points, and, after the history is completed, question the patient again, or ask information of others. This is very necessary in cases where we investigate such causes as sexual irregularities and syphilis, family taints, etc.

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THE PERILS OF THE OBSTETRICIAN.—The following amusing letter, which speaks for itself, was received by a leading gynecologist of this city: "I presume you remember the time, nearly four years ago, when you had attended my wife at the conception of her child. We lived at that event at —— West Thirtieth Street. You charged $20, which I paid you $10 on account. I intended to have paid you in full, but parties advised me not to do so, as you had not done an honorable act in hurting my wife. I now, knowing that my wife is in a verry precarious predicament from the effects of your hurried attention to her bringing forth the child, notify you that suit shall be brought against you should my wife die from said hurriness or negligence of duty on your part, I will do all I can to punnish you for this act. You gave her a milk leg—Indeed it was not so, but you closed a vein on the right of the womb. If you had taken time to do your duty, as a good doctor would have done, this would not have happened. Now, I hold you responsible for this; and, as my wife has just begun to suffer from it, I look to you as the guilty one.

"Verry Resp., R. J. M."

NOT IN THE CODE.—A physician in the town of Sturgeon, Mo., makes his round of calls in a buggy drawn by a pair of elks.

# Original Communications.

## AN ENTIRE CATHETER, OVER HALF A YEAR IN THE BLADDER, REMOVED PER URETHRAM.

By ROBERT ABBE, M.D.,

SURGEON TO THE OUT-PATIENT DEPARTMENT, NEW YORK HOSPITAL.

The subject of the following instructive case was a German, aged seventy years. He was in perfect health till November 24, 1880, when, after drinking a little too much wine at a wedding, he found on going home that he was unable to micturate. The overflow of his distended bladder dribbled away for three days, when a physician relieved the retention by a catheter, repeating its use, morning and evening, for several days. The patient then began to pass water very frequently, "every ten minutes, night and day." This condition has continued for nearly seven months, the intervals of micturition increasing, however, until of late he has held water half an hour. He had, during this time, been treated only for "catarrh of the bladder."

He lost flesh, became irritable, suffered pain, mostly through his hips and in the bladder, at the end of micturition, and passed a large quantity of pale urine loaded with muco-pus.

I searched the bladder, and at once detected what seemed to be a large stone. The prostate was not enlarged, but the posterior bladder-wall was much thickened.

The above were all the facts I could obtain from the patient up to the time of operation.

For one week I prescribed acetate of potash and tonics, until his bladder was less irritable, and he could retain urine three-quarters of an hour in the day time, and two hours at night.

On June 20, 1881, with the assistance of Dr. R. F. Weir and two students, I attempted to crush and remove the stone by Bigelow's methods and instruments.

The examination, under ether, gave promise of a "large stone," the searcher travelling over an extensive calculous surface.

For three-quarters of an hour we endeavored to grasp the stone and crush it, but succeeded in getting no bites in the jaws of the lithotrite larger than a fourth of an inch, and including at times what felt like bladder-wall with the calculus. The beak of the instrument was so immovably fixed when each seizure was made, as to leave no doubt that the bladder was caught, and hence to close tight the jaws of the instrument was unjustifiable. The main calculous mass seemed to elude the instrument, but was most conspicuous at the base on the left. We seemed driven to the conclusion that we had a large encysted calculus to deal with, and that lithotomy would have to be resorted to. At last, however, another small seizure was obtained with so free a play of the instrument in the bladder that it was safe to screw the jaws of the lithotrite tight. On removing it from the bladder, a small piece of old catheter was found to have been punched out, and brought away in the fenestrated jaws. The question, how to get rid of a calculus-encrusted catheter, more than half a year in the bladder, now presented itself.

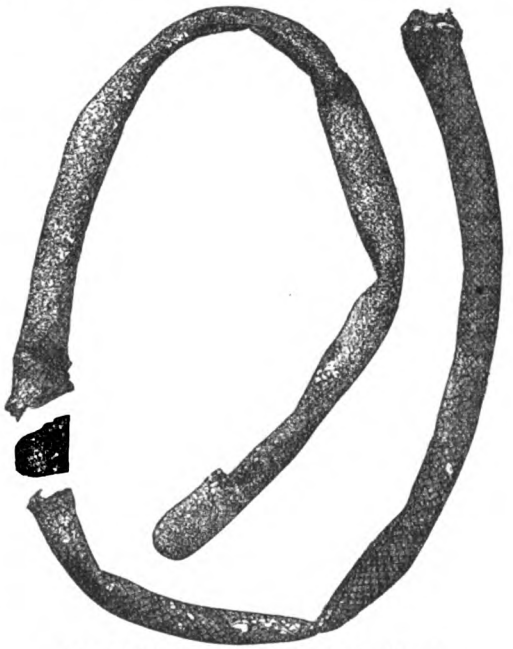
To avoid the more severe, yet simpler operation of lithotomy, I had either to proceed on the clue that the action of the lithotrite had given, and cut the catheter into small fragments, to be removed subsequently by the "evacuator," or drag it out by traction along the urethra. A twelve-inch catheter would require from fifty to a hundred seizures, under the most favorable circumstances, to cut it into one-fourth-inch pieces, and, in the present case at least, double that number. Considering the risks incident to this, the length of time it would require, and the uncertainty of detecting the last pieces of soft catheter, it was decided to seize it with the smallest Thompson's lithotrite and draw it out through the urethra. It was evident that the great number of gentle crushings it had already had must have denuded it of most of its crusting.

The smaller of the two fragments was seized one-third from its end, doubled on itself by traction, and firmly withdrawn.

The larger was caught near its centre. It was quite stiff, from salts deposited in its meshes, and came out with considerable rasping of the urethra.

The Bigelow evacuator (No. 31, French) was now introduced, the calculus-crusts washed out, and the operation concluded in an hour and three-quarters. The encrusting calculus, when dried, weighed forty grains.

The patient had severe urethritis on the following day, temperature 100½°, pulse 110, but on the second



Encrusted by forty grains of phosphatic calculus.

day, the acute symptoms subsided, and temperature and pulse were normal. On the third day urination was painless.

On the eighth day he presented himself at my office perfectly well, and holding his water three hours without pain. Two weeks later this interval was four hours, and he has since retained perfect health.

The patient says he had no idea of a catheter being in him, but from his son, a much more intelligent person, the following history was elicited:

The physician in attendance tied in a catheter on the Saturday evening after his first retention, to be left till Monday. On Monday morning the catheter

was missing when he awoke. The patient believed it had slipped out. His physician believed he had pulled it out in the night, and thrown it out of the window. Another physician saw him in consultation, and, failing to feel it in the bladder, told him it could not be there, or, if it was, it would dissolve. He therefore dismissed it from his mind. He began to pass water every ten minutes, but thought it part of his trouble of the previous week, and had since believed he had catarrh of the bladder, no subsequent search being made.

The following considerations make it a case of much interest:

I can find only two cases where an *entire* catheter has remained in the bladder for anything like so long a period. One, recorded by Poulet as occurring in 1780, where a soft bougie, ten months in the bladder, was doubled into a knot and formed the centre of a calculus ʒ ijss. in weight; removed by lithotomy. The other, by Fergusson, who, in 1863, removed an entire bougie (No. 6, English), which had been *two months* in the bladder, and had acquired a slight crusting of calculus. He used a small instrument fashioned like a lithotrite, and was fortunate enough to seize the bougie by the tip, thus not doubling it at all on itself. He had at that time known of no similar case.

Dr. Bigelow, in 1867, removed two-thirds of an elastic catheter, *four* weeks in the bladder, grasping by a small lithotrite one inch from its end, and extracting it with the tip turned back. This patient had also been told, by his former attendant, that it would dissolve if left in.

In 1870, Dr. Buck removed an entire elastic catheter a few hours after it had slipped in. A small lithotrite grasped it at the middle, and it doubled in withdrawal.

Dr. Buck's case illustrates what has probably been often done with small instruments just after their slipping in. As early as 1849, Cæsar Hawkins, of St. George's Hospital, removed four inches of gutta percha catheter, soon after the accident, by lithotrite.

A number of cases are recorded of small scraps of catheter being cut up by the lithotrite, and evacuated by the patient. Thus, in 1858, Holmes Coote, at St. Bartholomew's Hospital, cut up four and three-fourths inches of bougie, soon after it had broken off in the bladder, and the patient evacuated it in a few days. He was of the opinion that the male urethra tolerates lesions too badly to allow of dragging such a fragment out by the lithotrite. In 1851, Dr. Buck had done the same thing with a piece four inches in length. He cut it into four pieces by a lithotrite, and the patient evacuated it.

Regarding the case I have reported, we have illustrated the notable tolerance of the urethra to comparatively rough usage, and its quick and complete recovery.

The catheter was effectually stripped of crusts, by gentle crushings, before its attempted removal. It was an English gum-elastic, woven catheter (No. 10, English). The gum, of course, entirely dissolved.

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M. Vulpian and M. Paul Bert.—M. Bert having been appointed Minister of Public Instruction, M. Vulpian, in consequence, resigned his position as Dean of the Paris Faculty of Medicine. This was on account of a variance of opinions between these gentlemen. M. Béclard, Professor of Physiology, has accepted the vacant position.

## MAMMARY CANCER.*

Excision—Recurrence of Growth in Cicatrix—Successful Treatment by Electrolysis.

By ROBERT NEWMAN, M.D.,
New York City.

In January, 1881, Dr. Charles F. Stillman had the kindness to transfer to me a lady patient, suffering with a malignant tumor of the breast, with the request to give her electric treatment. The patient presented herself accordingly, and gave the following history: Mrs. S. T——, residing in Plainfield, N. J., aged fifty-three years, married twenty-two years; sterile; has, as a rule, enjoyed good health, but is subject to tumors. Fifteen years ago she had a large tumor in the abdomen, and was told by reliable physicians that the tumor was a fibroid of the uterus. An irregular physician treated her by animal magnetism, which consisted in manipulations over the whole body. The tumor disappeared entirely after two years' constant treatment by massage.

Dr. Lefferts, of this city, treated her afterward for a tumor in her throat, and has removed a large papilloma from her vocal cords. Soon afterward she felt a tumor growing in her neck, near the articulations of the clavicles with the sternum. The same magnetic physician who rubbed away the fibroid was employed, and, after long-continued magnetic manipulations, this tumor also disappeared. Soon after she felt a hardness in her left breast. This was one and one-half year ago. As a probable cause for this tumefaction, she recollects distinctly having received, some years ago, a violent bruise, by falling with her breast against the back of a large chair. This hardness defined itself, a year ago, to a distinct small tumor, as large as a walnut, and remained stationary for about six months. During the last half-year it grew more rapidly, and, two months ago, in the centre of the tumor, a hard nodule presented, visibly bulging out, and driving the skin outward, which has here a bluish red color. At the present visit this nodule is four inches from the nipple, and one inch in diameter, of equal size in both directions. It forms a regular circle, and is also the centre of the whole tumor, which is five inches in diameter, forming again an irregular centre, the margins diffusing on its irregularly nodulated borders.

The mammary gland is very large, and greatly developed; the nipple is normal, not invaded by the disease, and about one and one-half inch from the margin of the tumor. The tumor is situated in the left mamma, between the nipple and the axilla, occupying more the upper half of the breast; apparently it is movable, but the deeper parts are probably posteriorly agglutinated to the pectoralis, if not to the ribs. Dr. Stillman told me that the patient has carcinoma of the breast, and that the first row of axillary glands were already involved in the disease. I found the condition correspondingly as described by him. Several physicians have seen the case, and all agree in regard to diagnosis but Dr. F. H. Hamilton, who pronounced it a sarcoma.

The patient complains of a sharp, darting pain, which runs through the tumor and the whole breast, is aggravated during the night, and causes uneasiness and insomnia. She has lost flesh and appetite, and feels that her strength and vitality is giving out.

January 25, 1881.—First electrolysis. The negative

* Presented to the New York Pathological Society.

pole of a galvanic battery was divided in three sections; to each was fastened, by screws, a sharp needle. These needles are small, made of pure platinum, one end spear-shaped and sharp.

The three needles were thrust into the tumor, nearly two inches distant from each other, about two inches deep, so that the point of entrance was occupied by a part of the needle which is insulated, in order to preserve the cutaneous surface and avoid any blister from the action of the electrolysis. The needles were inserted near the outer margin of the tumor, and encircling its circumference. The positive electrode is a large-sized carbon, covered with sponge, and is applied near and outside of the tumor, generally opposite to the negative pole, in order to have the electric current passing through the whole tumor. But as the chemical action of electrolysis is desired from the negative pole only, the positive sponge must always be applied on sound tissue, outside of the affected part. This rule has reference only to *this* method and *this* stage of disease and procedure. When the electric circle is closed, the current is slowly increased, cell by cell, the strength to be regulated by the toleration of the patient, as the application is made without an anæsthetic. In the present instance twelve cells were used for twenty-five minutes, after which the strength of the current was diminished slowly, cell by cell, until zero was reached. During the application, the electrodes of both poles must be held steadily in close proximity to the patient's body, avoiding every interruption or breaking of the current.

The batteries used in this case were the constant galvanic battery made by L. Drescher, the elements consisting of zinc and carbon.

January 26th.—Patient feels better. Since yesterday, after the electrolytic application, all pain has ceased, she has slept well, and feels stronger and in better spirits.

Second electrolysis.—Again three needles were used, as before, at equal distances near the outer margin of the tumor, continuing to form a circle. To-day the patient could endure the current of seventeen cells for twenty-five minutes, sitting on a chair and chatting pleasantly. Of course no anæsthetic was given, and, nevertheless, no pain was felt.

January 27th until February 1st.—External applications of galvanism were given daily. Both electrodes were sponges: the negative applied on the tumor, the positive outside, and moved around the tumor.

February 2d.—Third electrolysis.

February 3d.—Fourth electrolysis.

February 5th.—Fifth electrolysis.

Each time three platinum-needles were used, the current was fifteen to nineteen cells strong, and each seance lasted twenty-five minutes. The average current of toleration was seventeen cells. Until now, fifteen needles in all have been used, which complete a regular circle.

February 7th and 8th.—External galvanization.

February 9th.—Sixth electrolysis.—Three needles are inserted in intermediate spaces, so that the tumor is worked over from beyond the periphery toward the centre, but without touching the cyanotic nodule in the centre. The tumor is now more defined at its edges, a hard, well-marked mass by itself, imbedded and surrounded by normal tissue, soft to the touch.

Before treatment was commenced, the tumor and sound tissue felt like one continuity, without any marked boundaries. Now it appears to be lying loose in this soft flesh, and can be moved. The patient has come daily for treatment from her home in Plainfield, in the most severe weather and blizzards, and, nevertheless, says herself, that her general health has improved. Since the first electrolytic seance, she never has had any pain, has slept well, has a good appetite, and has improved in general health.

February 11th to 20th.—External galvanic applications for about thirty minutes daily.

February 21st.—Seventh electrolysis.—Three needles to the base of the tumor. The needles were introduced below the breast, points of entrance in healthy tissue, and then pushed horizontally beneath and to the base of the tumor. Current was twenty cells strong for fully thirty minutes. Tumor itself is now smaller than when treatment was commenced, the diameter each way only four inches, very hard, defined, lying like an apple imbedded in soft tissue, can be moved about, and nearly lifted up from its base.

February 23d—Eighth electrolysis.—Three needles to the base of the tumor in the same manner as seventh seance, working beneath the other half of the tumor, on the side of the median line of the body. Current of thirty-two cells for thirty-five minutes. Patient felt no pain, and when the needles were removed from the body, it was evident they came from a necrotic mass. During the application a hissing sound was heard, almost like steam escaping from a boiler, caused by the force and chemical action of the electrolysis.

February 24th to March 7th.—Almost daily applications of galvanism externally.

March 9th.—Ninth electrolysis.—Three needles in tumor on left side; thirty-four cells for thirty-five minutes.

Dr. Lefferts has examined the throat, and finds that the papilloma has grown again to such an extent that the larynx is filled up to nine-tenths. This state interferes with the treatment of the breast, as the final destruction of the tumor must be done under anæsthesia, which, under the circumstances, is an impossibility.

March 11th.—Dr. Lefferts has removed a part of the papilloma. Patient is weak from the operation. Tumor of breast is inflamed from the last electrolysis.

March 12th.—Tumor bulges out, getting softer; nodule is dark blue, and looks as though it might burst at any moment.

March 14th.—Nodule has broken, followed by a slight hemorrhage.

March 17th.—Tumor suppurates, nodule sloughs.

March 18th.—Patient came to the office. Nodule is necrotic, sloughing; no sensation. Tumor is inflamed, and increasing in size. Patient's strength is failing.

Entire sloughing-out and suppuration of tumor would last too long, and, under the circumstances, the patient's life may be endangered by asthenia, and even septicæmia. Again, while the upper part sloughs, the disease may spread in the depth of the tumor. For this reason, extirpation was decided upon for the next day.

March 19th.—Operation in Plainfield, with the assistance of Drs. Hund and Probasco. The anæsthetic used was the bichloride of methyl. An elliptical incision, eight inches long, was made below and above the diseased parts of the tumor, so as to include in the removal all affected cutaneous tissue, and even

going beyond it on both sides. Then the tumor was dissected out, mostly with knife and scissors, assisting with the galvano-cautery. The tumor was larger than expected, firmly agglutinated at the base to the deltoid, and extending toward the axilla. After removal, the deltoid was exposed and laid bare. Some of the fascia and muscular fibres of the deltoid looked suspicious, and were removed. The dissection had to be continued into the axilla, from which several affected glands were removed, while the artery could be seen distinctly pulsating. The cavity was touched with the galvano-cautery, which also controlled hemorrhage. The wound was brought together, and closed with silver-wire sutures. A drainage-tube was left in it; adhesive strips were placed between the sutures, while compresses and firm bandages completed the dressings.

It may be stated here, that the extirpation was permitted only under the condition to take out the tumor *only*, and not to disturb the nipple or the other part of the breast, which appeared healthy. This statement explains why the whole gland was not removed.

Patient passed a comfortable night, and slept well after having taken twenty drops of McMunn's elixir.

March 20th.—Patient is comfortable; has no pain; pulse, 76; temperature, 99½° F.

March 21st.—Pulse, 88; temperature, 102°, which was the highest during her illness. Both pulse and temperature fell gradually, so that it was normal on the fifth day.

March 24th.—Half the sutures were removed.

March 27th.—All the remaining wire sutures were removed.

March 28th.—External wound has healed.

March 29th.—Large quantity of laudable pus per drainage-tube; shows under the microscope only the characteristic cells of pus.

April 2d.—Cavity is filling up.

April 5th.—Patient is riding out, and walks out-of-doors.

April 9th. — Drainage-tube removed; opening filled with oakum. General health is very good.

April 30th.—Suppuration has ceased; cavity is all healed up.

May 7th.—A hardening is perceived in the cicatrix, just seven weeks after the excision.

May 27th.—Hardness in cicatrix still there, but has diminished in size, and appears more defined in its boundaries. One spot particularly feels sore on pressure or on stretching. This suspicious hardening is one inch long and half an inch in width, and also one and one-half inch from nipple. Toward and in axilla everything appears to be healthy. Constitution and general health is excellent; good appetite.

June 6th.—The suspicious-looking place in cicatrix is inflamed and more hardened, and there is no doubt that this is a recurrence of the malignant growth.

June 8th.—A blister is raised.

June 13th.—Decided demarcation, spread in a circle, which begins to show signs of suppuration. Poultice ordered.

June 16th.—Upper layers of the circle are dead. Poultice has softened the whole breast, which no longer pains on touch.

June 25.—A neurotic detritus, the edges defined and surrounded by a deep fissure. Outside and around this demarcation the breast is soft and normal; no pain.

July 1st.—No smell; no suppuration; neither has any dead tissue come away. The breast is much inflamed and painful. Poultices continued.

July 9th.—Clipped off, with scissors, a piece of the cicatrix. My friend, Dr. Robinson, examined it under the microscope in my presence. The specimen was fresh and partly necrotic, which interfered with the examination, but malignant cells were found, which prompted the energetic destruction of the growth.

July 13th.—In New York, at my office, electrolysis in the following manner—bichloride of methyl was admistered by Dr. Hund; Dr. G. Meier also assisted: A platinum-needle, connected with the positive pole, was introduced into the centre of the dead mass, while the negative platinum-needle was inserted successively in two hard places beneath and close to the cicatrix. The object now was to destroy the diseased tissue at once, and to let it slough. As the part to be destroyed occupied only a small area, it could be accomplished easily and in a short time, whereas in March the condition was different. The current of electrolysis worked well, but could not be kept up long enough, as the patient, even under the anæsthetic, acted in a nervous and irritable manner. But good work was done, even if it could not be finished. The patient had to go home to Plainfield after the operation, and for this reason also she could not be kept too long under an anæsthetic.

During this operation, particles of the infected cicatrix and some broken-down tissue were clipped off for microscopical examination. Dr. Hund and myself examined these specimens with the microscope, and found carcinoma cells as a proof of the recurrence of the disease in the cicatrix three months after extirpation.

July 19th.—Electrolysis in Plainfield under bichloride of methyl, assisted by Dr. Hund. A zinc-needle at positive pole was inserted in the centre of the dead mass. The negative pole, as a platinum-needle, was introduced successively into different places around and on the edges of the suspected mass, leaving it in one place about five minutes. Of course the needles were inserted, as well as removed, while the battery was at zero. In each place just as many cells were used as were required to either soften the hardened place or to destroy it entirely. The first process is a restoration of tissue by absorption of the diseased parts, while in the second case the malignant part is destroyed because it is past redemption by absorption. A very powerful battery was used, and in each place from twenty to forty cells, according to the state of the tissue; the cicatrix and surrounding parts were well worked over, so that no hard mass was left behind.

July 22d.—Patient had fever on the 20th, and a large inflammation and swelling of parts around the tumor, which is due entirely to the after-effects of the strong current of electrolysis. A large mass of dead tissue was removed without causing any pain. Edges of fissure look healthy, smooth, and clean. Base of wound is normal muscle, and in it spring up good, laudable granulations. Pulse is strong and good, temperature normal. In axilla, and around that region, all appears healthy.

July 28th.—Patient is in good spirits, walks about out-of-doors, and goes out riding. Pulse and temperature are normal. Wound looks well, with healthy granulations filling up from the bottom.

August 1st.—Patient came to New York, feeling better and more lively than at any time since being under treatment. Wound looks healthy; margins begin to fill and heal up; skin-edges looking pink,

with a whitish film of cicatrization. Breast, nipple, all muscles and glands are soft, and no suspicious places can be discovered.

No medicine at all has been given since treatment began.

August 6th.—Axilla does not show the slightest sign of infiltration.

August 20th.—More improvement in every way. Granulations have filled up all cavities, and skin is forming rapidly. Breast is as soft as it can be in a healthy state. Patient is lively, has a good appetite, and enjoys good health in general. No medicines were given.

September 1st.—Patient presented herself in good health, recovered entirely, so that she was declared positively well.

November 23d.—Mrs. T. has remained well, enjoyed excellent health, and her breast looks now normal; even the hollow place from which the tumor was removed, has almost filled up. There is at this time no indication of the recurrence of the disease.*

The specimen I present is the tumor of the breast, extirpated in Plainfield, March 19, 1881, as a cancerous growth. It has been preserved in Wickersheimer's fluid, only too well to show the characteristics as it appeared when removed, so that now it looks more restored to a normal color and general appearance. In cutting through its centre, you will find, as a nucleus, a hard, onion-like mass, presenting the characteristics of a scirrhus. Here you see a broken-down mass and, externally, the nodule spoken of.

Dr. Hund has prepared the microscopical specimens which I submit here for examination: First, we have two sections from the tumor, prepared only yesterday; next, we have two sections prepared from the indurated glands removed from the axilla at the operation, which illustrates the malignity of the tumor, and that the axillary glands were already affected when operated upon. According to many authors this would show that the disease has become constitutional, and thereby incurable.

In a microscopical section were shown *(a)* spindle-shaped cells of sarcoma, with distinct prominent nuclei; *(b)* the same cells degenerating to a scirrhous character, with a gradual diminution in size of these cells; *(c)* formation of alveoli, containing epithelioid cells.

The large, spindle-shaped cells were those of a sarcoma; the smaller cells gave the structure the appearance of scirrhus; and finally, the alveoli containing epithelioid cells indicated the existence of a sarcoma, which degenerated into a true carcinoma. Investigating another section, there was seen nearly the same condition as in the former section, with the exception that the large sarcoma-cells were less distinct, were degenerated cells of a scirrhous character, and with alveoli. The whole structure had the type of a well-defined scirrhus, studded here and there with epithelial cells and alveoli. Both of these sections were prepared eight days after the operation, and at that time were the only proofs; but an additional and indisputable one was obtained seven weeks later by examining a portion of the cicatrix, which was found to be infected by carcinoma. The specimen of cicatrix, which had been worked over by electrolysis, was mortified (most likely from rapid contraction), and, therefore, gave only a dim picture, but, nevertheless, clear enough to prove the recurrence of the disease. We found embryonic indifferent cells, and giant cells of sarcoma, as well as scirrhus.

We found, therefore, elements in these specimens representing different varieties of cancer and sarcoma; and the question arises, if they can exist together in one growth, or if either form can change into the other? At this Society, specimens have been presented, illustrating that cancer may change to sarcoma; and at the same time it has been denied that sarcoma can degenerate into a cancer, for the reason that the latter is more highly organized than the former. But the specimens presented here to-night appear more as if the disease had begun as a sarcoma, and afterward degenerated into a scirrhus.

To sustain this opinion we have good authorities. Rindfleisch* describes the "Sarcoma carcinomatodes," and also says: "The sarcomatous carcinoma represents the second possible combination of carcinoma and sarcoma. The epithelium of a gland degenerates in the same manner as in any soft carcinoma of a gland, at the same time the interstitial connective tissue undergoes sarcomatous degeneration. This combination I would call a carcinoma, because the signs of sarcoma show themselves only in the primary tumor, whereas the recurrence and metastasis appear, as a rule, as a pure, soft, glandular carcinoma." †

This quotation is taken from Rindfleisch's 5th edition, published in 1878.

Rindfleisch has also said, in his lectures at Wurzburg in 1879, that a sarcoma may change to a carcinoma, which is reported to me from personal notes by Drs. Buechler and Jacobus. We next quote Billroth ‡ as follows: "Sarcoma is a tumor, consisting of tissue belonging to the developmental series of connective-tissue substances (skin, cartilage, bones, muscles and nerves), which, as a rule, does not enter into the formation of a perfect tissue, but tends to peculiar degenerations of developmental forms;" and his prognosis is that, if sarcoma first appears at between thirty and forty years of age, we have to fear general sarcomatous infection, or *actual transformation to carcinoma by epithelial proliferation.*

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THE TREATMENT OF PHTHISIS BY ANTISEPTIC INHALATIONS is now being quite extensively discussed. The value of this method was first systematically studied four years ago by Dr. G. G. Sinclair Coghill, of Ventnor, England. The practice of using antiseptic respirators is no longer a novelty in England. Additional evidence as to the value of the respirator has recently been given by Dr. Batterbury in the *British Medical Journal.* A new form of skeleton respirator has been invented by Dr. E. MacDowel Cosgrave.

PRACTICAL AMALGAMATION.—The following advertisement copied from an exchange reminds us of the nursery ballad, "Jack Spratt could eat no fat, his wife could eat no lean," etc.:

"WANTED.—A fine-looking, unmarried homœopathic physician, who understands the eye and ear specialty, to join an allopathic specialist in a town where homœopathy is well introduced. Address," etc.

Evidently the millennium is at hand.

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* The specimens, consisting of the extirpated mammary tumor, and parts of the cicatrix in which the growth returned, were presented to the Pathological Society, New York, November 23, 1881, together with microscopical sections from tumor, axillary glands, and cicatrix, illustrated by drawings.

* Rindfleisch: Pathologische Gewebelehre, p. 107.
† Ibid., p. 139.
‡ Billroth: Surg. Pathologie, p. 591 et seq.

## ACUTE DIABETES MELLITUS.

By GEORGE T. WELCH, M.D.,

KEYPORT, N. J.

Dr. George Harley states in his work on the urine and its derangements, that "there are such things as *acute*, as well as *intermittent diabetes*," and quotes briefly from a report made by Dr. Noble in the *British Medical Journal*, January 17, 1863, of two cases of the former: one, a boy of seventeen years of age, who died three days after the disease was discovered, and only a few weeks after he first felt ill; the other, a young lady, who died on the tenth day after the nature of her malady had been diagnosed.

Dr. Brunton, in Reynolds' "System of Medicine," says: "Cases have been recorded in which the disease seemed to run a course of only a few weeks before phthisis set in," but Dr. Noble's report is the only one I can now find in several treatises on diabetes mellitus, where the disease ran its course with such shocking celerity. This being so, it must be of interest to the profession to hear one other detailed, which came under my notice last Thursday, and terminated fatally within sixty hours.

M. C——, a young man thirty-two years of age, tall and stout, weighing in health 240 lbs., came to my office for treatment on the afternoon of December 8th, complaining of what he called malaria, and for which he said he had taken quinine without benefit. He was then in a state of exhaustion, with a tongue dry and irritant as a rasp, and tortured by fiercest thirst. Upon inquiry, I learned his health had been excellent to within three weeks, when, without apparent cause, he began to pass enormous quantities of urine, and consume an extraordinary amount of liquid. He had lost 25 lbs. in weight in about fifteen days. His appetite had not failed him until two days before, when the bowels had been moved copiously, after taking repeated cathartic doses to overcome an obstinate constipation, since which time he had lost all desire for food, and felt more than usually wretched. His breath had an odor of hay. He stated that, when voiding urine, if a drop should fall upon his boot or clothing it would leave a white spot, and showed me several recent spots on a corner of his overcoat.

I found the urine to have a specific gravity of 1040, and with the copper test to show a large amount of sugar. Examined since, under the microscope, abundant crystals of diabetic sugar have been exhibited.

My patient called at the office on Friday, but was now in an almost incoherent condition, skin hot and dry, heart laboring hard, nausea, constipation, excessive diuresis. He told me he had probably passed twenty pints of urine, as nearly as he could estimate, during the past twenty-four hours. I directed him to return home at once and remain there, continuing the prescribed treatment, with supporting measures added, when I would call and see him the next morning.

During the night he ate ravenously of ice, and, ascertained by subsequent measurement, passed about a pint of urine every hour until 3 A.M., when, being hastily summoned, I found him vomiting, breathing heavily between whiles, sighing, and in great apprehension of mind. He complained of gastric pain, probably caused by the ice, which, with the vomiting, was soon ameliorated. Calling again at 9 A.M., I found he had taken hourly doses of medicine, and in answer to my questions stated he felt better. No more urine had been passed.

At 2 P.M. Drs. Arrowsmith and Hodgson met me in consultation. The patient was in profound coma when we reached the house, and died in that condition at 3 A.M., on Sunday the 11th inst., sixty hours after his disease was first diagnosed.

His system did not respond to galvanism, revulsives, or hypodermic measures after coma began. I introduced a catheter into the bladder, but drew off only about eight ounces of urine, and a subsequent use of the catheter some hours afterward did not bring so much.

Any intelligent physician will see that, in a case sliding so rapidly into the grave, scarcely any of the remedies appropriate to saccharine diabetes could be used. The appetite being gone entirely, it was useless to speak of dietetic measures, and beyond tonics, acids, and supporting measures, there was scarcely time to look about one before life had hurried away.

No autopsy was obtainable.

## THE SUCCESSFUL REMOVAL OF A SUB-PERITONEAL FIBROID OF THE UTERUS, WITH REMARKS.

By R. B. HANAHAN, M.D.,

WINNSBORO, S. C.]

It is with mingled feelings of regret and satisfaction that I offer the following case for publication—regret that I have to publish my errors in diagnosis, and satisfaction in knowing that, despite those errors, the result has been satisfactory and happy, and I believe that I have been instrumental in rescuing from death one whose fate was sealed.

On the 25th February, 1881, I was called to see Hannah J——, a colored woman, living about five miles from Winnsboro, S. C. I found her abdomen enormously distended, some slight anasarca of the lower extremities, bowels constipated, tongue heavily coated, conjunctiva discolored, urine scanty and high-colored, and her skin harsh and dry. I was disposed to believe it a case of ascites from derangement of the liver, but came to no positive diagnosis. Upon my second visit I accidentally happened to meet with the former owner of the woman, and she inquired if Hannah had informed me of a tumor growing in her side. That gave me a new departure, and on my next visit I ascertained that the tumor was still there, and had grown considerably since her illness. Upon examination externally, I could indistinctly trace the outlines of the tumor, located, as I thought, in the right iliac region, but could find no evidence of its presence upon indagation. I introduced the sound, but still could trace no connection between the uterus and tumor, as shown by motion, etc. I arrived at the conclusion that here was a case of ovarian tumor, and possibly my conclusion was hastened by a desire for an operation of that kind. However, I obtained the advice and assistance of an older practitioner than myself, and we agreed to tap the tumor, when we could form a more accurate opinion. This we did, and drew off about three and one-half gallons of water. We could then distinctly trace the outlines of the tumor, and our former diagnosis was confirmed. We introduced the sound again, and still could detect no motion in the tumor, nor anything to cause us to doubt the correctness of our previous

conclusions. I determined to operate, and selected a day not far distant, for the woman was going down and had reached the point stated by Dr. Emmet to be the one for proceeding, viz., a shrinking of the fat about the muscles of the neck and disturbance of the digestive system. I examined the urine and could find no kidney degeneration; so I directed a warm footbath every night, the skin to be rubbed with vaseline, a generous diet, and her bowels to be attended to. I had hoped that the anasarca would have subsided after the pressure was taken off the renal vessels by the tapping, but at the time appointed I could perceive no difference.

The woman being exceedingly anxious for the operation and the surrounding circumstances about as favorable as I was ever likely to have in a darkey, I determined to perform it. On Sunday, the 29th of May, assisted by Drs. Robertson, Aiken, Madden, Scruggs, and McMaster, I chloroformed the woman and proceeded with the operation. Upon cutting through the abdominal parietes, I found instead of a healthy and shining peritoneum, a dark and congested membrane, so different from what I expected to meet as to create a doubt whether I had reached the peritoneum. Picking it up, however, and making a slight incision the water gushed forth and I then thought it was the cyst I had divided. Upon the stoppage of the flow of water and dividing upon a director the membrane, to my consternation and surprise a fibroid tumor presented itself at the opening, and the next question was, abandon the operation or remove it? Passing a sound around the tumor and finding no adhesions, and that it was pedunculated, I cut through the pedicle, taking the precaution of keeping the edge of the knife near to the tumor, in fact I may say making the incision through its base. There were two arteries supplying the fibroid, neither of which did we secure, they retracting so quickly. The hemorrhage was frightful, and not anticipating any such contingency, I was not provided with a cauterizing iron. We could see no termination except death. I found, however, by keeping a sponge firmly pressed upon the site of the arteries that the hemorrhage was controlled. I then proceeded to close the abdominal wound, adopting the method recommended by Dr. Emmet of passing the needle at least an inch from the edge in the peritoneum, and bringing it out nearer to the edge in the skin. After passing the sutures (I used silver wire) I removed the sponge and found there was still some hemorrhage, so it was decided to use a preparation of iron, which was freely done. A sponge was saturated with the solution of persulphate of iron and passed around in the wound, and as death was what we expected, we were not over particular as to what and where it touched. The abdominal wound was then closed, leaving an opening at its lowest point for drainage.

At my visit in the morning, about 10 o'clock, I fully expected to find some discharge issuing from the wound, and had provided myself with syringe and means to wash out the cavity. To my surprise, on attempting to pass a gum catheter through the opening I had left I found union had taken place, and the wound closed through its whole extent. The pulse was 120, thermometer 100°. She had reacted entirely and promptly from the chloroform, her skin and kidneys were acting profusely, which they had not done for months. She was cheerful and in good spirits, and seemed to be doing well. The pulse fluctuated between 88 and 100 for a week, and the thermometer ranged about 100°, but she never suffered in any way, and the quickness of pulse seemed rather the result of debility than from any fever that might be present. Her skin and kidneys continued to act freely, and on the eighth day, when the sutures were removed, there was no sign of anasarca. The wound was entirely healed, except a small spot about an inch below the umbilicus, which has since healed up. The woman's appetite had returned, and there were no untoward symptoms. In two weeks she was sitting up, and in less than three weeks she was walking around the house. I carried out as fully as possible the Listerian method. I had devised an atomizer, but from accident it would not work; in every other respect it was fully carried out. Upon the removal of the tumor we discovered two others. One, a small one, on the left anterior surface, and a larger one on the posterior surface of the uterus. The weight of the tumor removed was 29 oz. 7 dr. I desire to call particular attention to the fact that there were no ligatures used, no opiates at any time, and no stimulants, except a little just prior to the administration of the chloroform.

If the confession of my errors enables any professional brother to avoid similar ones, or if by the publication of this case I have contributed anything to the literature of the subject, then my purpose has been fulfilled.

## Progress of Medical Science.

THE DETERIORATION OF THE ATMOSPHERE IN MINES CAUSED BY THE EXPLOSION OF NITRO-GLYCERINE PREPARATIONS.—Of late, says Mr. Colquhoun (*Aust. Med. Journal*, June, 1881), it has become noticeable that miners are disposed to attribute much of the illness from which they suffer to the influence of the "fumes" resulting from the combustion of nitroglycerine preparations. Mingled with these fumes, very probably, is unexploded nitro-glycerine. One symptom which seems to be always experienced is a throbbing sensation in the temples and forehead; in many instances there is a slight feeling of nausea, and a transitory faintness. These manifestations gradually abate as the air grows clear. After a time the immediate effect is felt less acutely, although there is no real tolerance established. It is difficult to determine whether a permanent deterioration of health is brought about on account of the operation of various other causes of disease. The author has seen several instances in which precordial pain, dependent upon organic cardiac lesion, was exacerbated by the inhalation of the dynamite fumes. Without more extended observation it would be difficult to say that cases of this kind are particularly common among miners, but it is important at least to determine whether anything in their surroundings is calculated to aggravate special forms of disease, if it does not directly induce them. Nitroglycerine is therapeutically an antispasmodic; where spasm does not exist its action is chiefly to weaken the muscular power of the heart. Although this weakening might not reveal itself for a long time by physical signs, yet there would be present the general and functional debility accompanying feeble cardiac action, together with throbbing in the head. Miners may be expected to be more powerfully affected on account of the operation of various other depressing influences. By their occupation they are particularly predisposed to pulmonary diseases,

and the action of a cardiac depressant like nitroglycerine is likely to influence and be influenced by any pre-existing lung affection. There are two other potent causes of ill-health dependent on the condition of the atmosphere in mines; an undue amount of carbonic acid, and the suspension of fine dust in the air. Means to secure perfect combustion of the nitro-glycerine, and better ventilation, are indicated.

Ovariotomy during Pregnancy.—What shall be done with a simple ovarian cyst, or a compound ovarian tumor (solid and fluid), coexisting with pregnancy, are questions discussed by Dr. Wilson in his paper reprinted from vol. v. of the "Gynecological Transactions," 1881. In the case of an entirely cystic ovarian tumor, the author advises removal in preference to repeated tappings, as he also does in cases of compound tumor whose adhesions are not extensive and firm, and where the fluid largely predominates. In tumors, either solid, semi-solid, or both, and so large as to impede the growth of the uterus, Dr. Wilson would prefer ovariotomy to the induction of premature labor. The important element in prognosis in cases of ovarian tumor coexistent with pregnancy is the extent of adhesions to adjacent parts, not whether the tumor is solid or fluid. From what the author says it will then be seen that he holds, where pregnancy supervenes on an ovarian tumor so large as to endanger the life of the mother before she can reach to term, it is better to perform ovariotomy within the first three or four months after conception, than to tap or use other temporizing means in the effort of carrying her to term. Tapping he objects to, because each operation of this kind is followed by new and stronger adhesions to neighboring organs, and each adhesion adds to the danger of a subsequent ovariotomy. The statistics of ovariotomy during pregnancy show excellent results for both mother and child (deaths, five women and nine children; saved, twenty-four women and twenty children). Dr. Wilson thinks that with modern operative improvements, etc., the number of deaths of mothers might have been reduced to three. Statistics also seem to show that ovariotomy in pregnant women, previous to the sixth month, is more successful for the mother, and vastly more successful for the child than the same operation at a later period.

Laparotomy and Cystorrhaphy in Perforating Intraperitoneal Wounds of the Bladder.—As deductions of a recent series of experiments upon rabbits, whose peritoneum is reputed to be particularly sensitive, Dr. Vincent presents the following conclusions:

Contact of urine with the peritoneum is not as fatal as has been supposed, since, of fifteen rabbits, twelve have survived a momentary or prolonged urinary inundation.

The peritoneal surfaces being placed in juxtaposition, the vesical suture, composed of independent metallic loops left in the abdomen, may be employed with almost a certainty of success.

In intraperitoneal solutions of continuity of the bladder, followed by an extravasation of urine into the peritoneal cavity, vesical suture, preceded by laparotomy, and executed immediately or after a short space of time, will almost certainly save the subject; this it will do, whatever be the cause of the lesion, and in spite of grave complications.

When intraperitoneal perforation of the bladder has been executed and extravasation of urine taken place, the subject may still be saved, although laparotomy and suture be deferred for from three to forty-eight hours.

The possibility of spontaneous cicatrization of vesical perforation has been experimentally demonstrated in animals with a sensitive peritoneum; but it is not the rule.

In view of the foregoing conclusions, and the mortality in intraperitoneal perforations in man, the author in such cases recommends laparotomy and vesical suture; these must be rapidly executed. His experiments, furthermore, argue in favor of the supra-pubic operation for stones of large size and extreme hardness, small and friable calculi being removed by the lithotrite. In his operations upon animals, he exposed the intestines as little as possible, and extracted the bladder through a very small opening. He objects strongly to the use of the spray, and the washing out of the peritoneal cavity with the carbolized solution, but advises a scrupulous observance of other customary antiseptic measures; he also recommends that the room be disinfected with a strong spray of carbolic acid several hours before the operation.—*Lyon Medical*, September 25, 1881.

Influence of Pneumo-Hydrothorax upon the Course of Pulmonary Tuberculosis.—Dr. Paul Meusnier, of Blois, communicates to the *Gazette des Hôpitaux* (September 24, 1881) a case of pulmonary tuberculosis, the progress of which he considers to have been retarded by the supervention of pneumo-hydrothorax. This fortunate result he attributes to the compression of the diseased lung, by which suppuration was limited and septic poisoning prevented. The following is a *résumé* of the case: In July, 1879, Dr. M. first saw the patient, a young man of twenty years, who had had phthisis a year. The disease was confined to the left lung, and had advanced to the stage of excavation. The general condition was bad, the cough incessant, and the expectoration purulent. Emaciation was extreme. A daily hectic paroxysm occurred. No change took place in the symptoms until September 27th, when perforation of the lung occurred and pneumo-hydrothorax was developed. After the disappearance of the dyspnœa and pain incident to the perforation of the lung, marked amelioration of all the symptoms was manifested. The cough and fever disappeared, and the general health improved. The patient gained three kilogrammes (six and a half pounds) every two weeks, and in February weighed more than ever before in his life. Improvement continued until May, 1880, when, after exposure, the pleuritic effusion greatly increased. On June 8th thoracentesis was performed, and two litres (three and a half pints) of pure serum withdrawn. The fluid reaccumulated, and assumed a purulent character. Septic fever now reappeared, and the patient died suddenly, before thoracentesis could be again resorted to.

Cretinoid Œdema or Myxœdema.—The *Gazette des Hôpitaux* (September 24, 1881) attributes priority in the discovery of the so-called myxœdema to Dr. Morvan, of Lanniles. He is said to have reported fifteen undoubted cases of this disease in 1875, before the publication of any cases by Charcot or by English writers. His cases were characterized by anasarca, particularly well marked about the face, the legs, and the wrists, and by general paresis without muscular atrophy or impairment of the mental powers. Although the muscular paresis was

marked, it did not incapacitate the patients from walking. The movements of all the limbs were well co-ordinated, but very deliberate; cold seemed to notably aggravate the disease. The speech was slow and hesitating, the tongue was moved with difficulty, the voice was hoarse, the fingers lost their flexibility; the extensors were more deeply involved than the flexors. The slightest exertion caused great fatigue. Paresis of the muscles of the tongue and larynx, coupled with the œdema, serve to explain the symptoms referable to these organs. The paresis involved the organs of vegetative life in certain cases. Thus, the cardiac action was sometimes retarded, and the frequency of the respiratory movements diminished. Sensation was unimpaired in all the cases, and hyperæsthesia was even observed in some of them. Amblyopia, delirium, hallucinations, and vertigo were occasionally present, but the general health was excellent, the appetite and digestion good, and the urine normal. Women were almost exclusively attacked. The type of the disease was milder than that of the cases observed by Charcot and in England, presenting neither the cretinoid cachexia nor the œdema of the mouth, larynx, digestive organs, and urinary tract, described by Charcot, Gull, and Ord. M. Morvan regards cold as the chief exciting cause, and menstruation, repeated pregnancies, and prolonged lactation as the predisposing causes of the disease. Middle-aged women are most frequently affected. No cases are cured, but in none is the disease directly mortal. No efficacious remedies are known.

Treatment of Sciatica by Hypodermic Injections of Nitrate of Silver.—Dr. Greslon reports (*La France Médicale*, September 29, 1881) the radical cure of a case of sciatica, which had resisted all ordinary methods of treatment, by hypodermic injections of the nitrate of silver. The patient, a lady of fifty three years, was of a gouty and rheumatic diathesis. She had recently suffered from several attacks of acute articular rheumatism. Her metacarpo-phalangeal articulations presented the characteristic deformities of arthritis deformans. In March, 1878, the patient was attacked by sciatica in the left thigh and leg. The most severe pain was experienced in the calf and at the sacro-sciatic foramen. After unsuccessfully treating the case for twelve days with sinapisms, vesicatories, and anodynes, Dr. G. injected five drops of a twenty-five per cent. solution of nitrate of silver into the deeper tissues of the calf, at the most painful part. The injection was attended by violent pain, and followed by the formation of an abscess, which was opened at the end of a week. A few days later the neuralgic pains had completely ceased in the leg. Eight drops of the same solution were then injected over the sacro-sciatic foramen. No abscess ensued, but an inflammatory exudation occurred, and discharged, six days after the puncture, some sero-sanguinolent matter. A week later all pain had disappeared from the limb. The patient has had no relapse of the sciatica, although three years have elapsed since the attack in question.

Paralysis Agitans and Senile Trembling—Static Electricity in Hysteria.—A *résumé* of lectures by Prof. Charcot, delivered at the Salpêtrière, on the above subjects, is published in the *Journal de Médecine et de Chirurgie pratiques*, October, 1881. Prof. C. dwells particularly upon the characteristic symptoms of paralysis agitans other than the tremors, which latter may often be completely absent. He alludes to the peculiar attitude of the patient, whose body is bent forward, while his neck is rigid and his head almost immovable. This rigidity is due to a constant muscular contracture, which affects the flexors first, and always to a more marked degree than the extensors. The facial expression, described as that of surprise, is referred to a contracture of the occipito-frontalis and of the orbicularis palpebrarum. The contracture of the ocular muscles imparts a staring look to the eyes. A similar interference with the function of the laryngeal muscles produces an impairment of speech, which may be interrupted or stammering. The muscular rigidity sometimes causes deformities resembling those of chronic rheumatism, but distinguished by the absence of arthritic swelling, rigidity, and crepitation. The patients experience an indescribable *malaise*, which impels them to incessantly change their position. This abnormal sensation is most marked at night. Although the temperature of the patients remains normal, they suffer from a subjective feeling of intense heat, which is particularly felt on the back and in the epigastrium.

M. Charcot emphasizes the fact that true senile trembling is a rare affection. He asserts that most of the cases of tremor designated by this name were really developed at an earlier age. Senile trembling often localizes itself in isolated muscular groups, causing inco-ordination in the movements of the head and of the extremities. No treatment is efficacious in these diseases.

The same observer has attained remarkable results in the treatment of hysteria by means of static electricity. His apparatus is essentially such a static machine as is used in physical laboratories, although somewhat modified. The patients are placed upon isolated stools, connected with the conductor, and thus subjected to the uninterrupted action of electric currents, which, escaping from prominent points of their bodies, produce prickling and tingling. The appetite is increased and the cutaneous functions stimulated. Special dischargers are provided for the excitation of individual organs, particularly those of special sense. Hysterical contractions, hemianæsthesia, and achromatopsy were completely relieved by the electric bath. Anæsthesia is often permanently, but sometimes only temporarily removed. On the whole, Prof. C. believes static electricity to be more efficacious than the other forms of electricity in restoring the sensibility of anæsthetic parts, and in diminishing the tendency to attacks of hysterical anæsthesia.

Therapeutical Uses of Yerba Santa.—Dr. Salomon reports that yerba santa, or eriodyction Californicum, has in his hands, proved to be a remedy of value in bronchorrhœa, in acute bronchitis, in the cough of measles, and as a prophylactic against laryngismus stridulus. Dr. Salomon employed the fluid extract of the leaves, in doses of ten minims to one drachm, glycerine being the best vehicle, as water and syrups precipitate the gummy portion of the preparation. The author thinks the remedy acts specifically on the mucuous membranes of the air passages as an astringent. In chronic bronchitis he was compelled, in the majority of cases, to abandon its use, and administer other remedies.—*N. O. Med. and Surg. Jour.*, November, 1881.

Woman's Hospital in Baltimore.—It is reported that a movement is on foot to establish a Woman's Hospital in Baltimore.

# THE MEDICAL RECORD:

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## THE MENTAL CONDITION OF GUITEAU.

WHATEVER be the view one takes of Guiteau's mental condition, it must be admitted that it is a most complex one, and is deserving of careful study. Furthermore, there never was a criminal the materials for the analysis of whose character are more abundant. We know his history from the very beginning. Guiteau's father was a man of narrow mind and extremely positive convictions. His mother was not a strong, healthy woman physically. The son was born with a brain and nervous system that could be easily thrown out of balance. Under proper training, Guiteau might have made a respectable, though never a very estimable man. There was an innate lack of moral strength and sensibility. His early surroundings and education were calculated to develop the worst side of him. He showed, when a young man, an impressionable and emotional nature; his will was weak, his intellect bright, but only so within a narrow range. He was educated, yet he learned nothing of value, and is even now a very ignorant man. He did nothing to enlarge his intelligence, discipline his will, or correct his judgment. In men of narrow mind and strong feeling there is the strongest tendency to become essentially egotists. Man's natural self-love, when not guided by a broad intelligence or a true morality, continually increases. When these safeguards are destroyed or blunted, as in the insane or criminal, egotism becomes almost supreme. The thoughts of the madman and of the villain revolve about himself alone.

But the egotism of insanity is not so often offensive as it is absurd or curious. And Guiteau's self-concern has always, we believe, stopped short of madness. It was in a large degree calculating and methodical. His schemes were extravagant, but not ridiculous.

Guiteau has never had the *full* capacity to judge between right and wrong. He is like a man born with imperfect hearing. By proper training and self-control he might have learned to do right. But, as a man may destroy, instead of cultivating, a defective sense, so Guiteau finally lost, or nearly so, his capacity for feeling shame or appreciating what is right.

Guiteau was always dreaming of becoming notorious. Every one builds some air-castles. But who can ever conceive how many fantastic projects grew up in Guiteau's mind, out of his egotism and ignorance. To be a great editor, a great theologian, and a great politician—to be something which should make people talk about him—this was always in his mind. Every one has a touch of such ambitions. They show, not insanity, but lack of self-control.

Conceive now such a man, haunted by ambitious fancies, thrust into the political situation of last spring. A way out of the troubles that will, at the same time, gratify his life-long dreams, presents itself. He shakes off the idea at first. But he has not been kindly treated by some of these great officials. He is rebuffed by Blaine, snubbed by Logan, and ignored at the White House. The way by which he can more than get even with these men again recurs to him. Here is an opportunity to be, as he once thought of being, a second Wilkes Booth. There is a fascination in the idea of thus committing a great murder. Every criminal must feel something of this when he has fully determined on his deed. It draws him on like a serpent's eye. Perhaps some vague sense of fatality or "inspiration" becomes mingled with it.

Guiteau's moral sense was too dull by nature and by abuse to revolt at his project. Yet he hesitated. Once he went to the church to shoot, but did not. Again he went to the depot with the same intent: this time, too, he restrained himself.

If Guiteau had not debauched his moral sense and surfeited his vanity by constant self-indulgence, he could never have felt his "inspiration." The vicious longing for the immortality of a Booth, the surliness of a rebuked self-esteem, are vastly more prominent in his history than are the symptoms of "religious monomania." If Guiteau's mental traits are such as to class him among the insane and irresponsible, then let us, for the benefit of society, reconstruct psychiatry. It is not so much that his punishment would deter the weak-minded and insane from criminality. But a failure to punish him would be a stimulus to those criminals who are not insane, but are near enough that condition to feel that they need only act extravagantly in order to be passed off as cases of "primary monomania."

### HOSPITAL SATURDAY AND SUNDAY.

THE public will be specially reminded to-day and to-morrow of their obligations to the sick poor. Hospital Saturday and Sunday come at a time of the year when the human heart is softened by charity and

when alms-giving is a matter of conscience, and substantial remembrances are appreciated privileges. After all that has been said concerning the needs of our large hospitals for more pecuniary support, it would seem a work of supererogation to urge the necessity of large contributions for the purpose. In no better direction can charity flow than in the proper care of the poor and helpless in our hospital wards; and in no surer way can the greatest amount of good be guaranteed for the outlays made. The pecuniary management of our larger hospitals may be considered above reproach. To such as have studied carefully the reports of the Hospital Committee it is a matter of surprise that so much can be accomplished out of comparatively so little. When the average expenses of a patient are reduced to the low figure of one dollar and fifteen cents per day, and he, as poor as any pauper that falls by the wayside, can secure the best available medical talent, the best nursing, the best medicines, and the best nourishment for such a sum, the public can scarcely ask a better object for benevolence. But these facts need only be mentioned to have their significance properly appreciated by such as at this festal season desire to do their Master's work. The statements which have been made concerning the work of the hospitals, in soliciting pecuniary aid from the public at large, has tended in no small degree to elevate these institutions in popular esteem and to break down those prejudices which have been so deeply rooted in the minds of such as are proper subjects of hospital care. It has been demonstrated by facts and figures that neither race nor religion interferes with the practice of the broadest humanity. If one thing more than another entitles a patient to the most skilful treatment and loving care which the best equipped hospital can bestow, it is the fact that the suffering one is the poorest, neediest pauper that can be found. The ever-ready ambulance on its errand of mercy has no time for inquiry into the religion or nationality of the suffering wayfarer; it is enough that he be a stranger, sick or injured, and he is tenderly cared for as the "least of those" who are always with us. It is the exemplification in its largest sense of that liberal Christianity which proves the true aims of pure and practical charity. The better this noble system of caring for the sick poor is understood the more will the tendency be to centralize the necessary help in the required direction for doing the most good to such as are in the direst need. Opportunities will thus be afforded of systematizing much of the almsgiving which has heretofore been indiscriminate in character and consequently barren of good results. It is not too much to expect that an organization, such as that now being perfected by the Hospital Committee, will, with proper encouragement, tend to the suppression of professional pauperism and to the correction of the thousand and one abuses of medical charity with which, alas! the medical man has of late become so well acquainted. From these points of view the profession, always willing to help the suffering and needy, will stand ready to second the efforts of the committee in their noble and disinterested labors, and will use its influence with the public to make the scheme a far-reaching and successful one. From present indications the contributions are destined to be larger than at previous periods; and this is as it should be, not only considering the increasing popularity of the movement but the yearly increase of such as are the fit subjects of hospital treatment.

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### PREVENTING CONTAGION IN SCHOOLS.

It is well known that the Board of Education has instructed school teachers to demand certificates signed by the Health Department from children who have been ill from contagious diseases before they are admitted to the schools. The certificate system is an admirable one as far as it goes, but there seems to be considerable difficulty in the way of properly carrying it out. The health authorities, it appears, are unequal to the task imposed upon them, it being obviously impossible, with the present force of inspectors, to grant the number of permits required. Consequently, it is suggested that the certificate of any reputable physician that the child is properly disinfected will answer the purpose. Certainly any qualified physician is competent to do this, but whether he will or no is a question of considerable practical interest. If the giving of a certificate implies, as it should, the actual superintendence of the processes of disinfection by the physician, then very few of such documents can be conscientiously issued. The medical attendant cannot be expected on general principles to give up his time to such duties. If he chooses to grant a certificate in any given case, he may, but to expect it of him as a rule is somewhat presumptuous on the part of the health authorities. It is certainly to be regretted that the Health Board is unable to perform its duties in this respect, but that is hardly a sufficient reason why, even in the laudable cause of protecting the school children, the medical profession should be saddled with any extra obligations. There is no argument against protecting our school children from contagion, but the duty of so doing belongs to the Health Board. The latter board some years ago virtually said that sanitary supervision of public schools was unnecessary, as such work could be easily done by its inspectors. Now it seems that a contrary opinion prevails. The Board of Education, for reasons of its own, which have never borne discussion, has year after year opposed a proper sanitary supervision of schools by officers specially and exclusively appointed for the purpose, and, by way of

dodging the issue, has thrown some extra work upon the health authorities. The latter confess that they are unable to perform the duties, and suggest that they be transferred to the obliging family physician. But behind it all there can be seen one of the most powerful arguments for the special sanitary supervision of our public schools that has yet been offered.

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IGNITION OF ETHER AT AN OPERATION.

At a clinic held recently by Professor Briggs, at the University of Nashville, Tenn., and during the etherization of a patient for the removal of a glandular tumor of the parotid, the vapor caught fire from the flame of the alcohol lamp of the spray-producer, and the clothes of the patient were ignited. Fortunately neither the patient nor attendants were injured, the flames having been speedily extinguished by the operator. Taking into account the number of times it is necessary to administer ether in more or less close proximity to the flame of a lamp, it is somewhat remarkable that accidents such as the one referred to do not occur oftener. In the great majority of cases accident is prevented by the extra precautions taken by administrators of the anæsthetic. Certain it is that the inflammable character of ether is well known to surgeons and the danger of igniting its vapor hardly needs to be accentuated in commenting upon Professor Briggs' case. In this particular instance most of the conditions favorable to the result were present. "The spray-producer was held at the usual distance from the ether-inhaler, slightly below its level, and there was no draught of wind." The patient had been inhaling the ether for some time and the whole surroundings were saturated with the vapor. The vapor of ether being so much heavier than air, is quite likely to be ignited by any flame at a low level. And there is apparently nothing more or less to be said of this case.

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THE INSPECTION OF THE THEATRES.

During the past week the chiefs of the fire battalions have been inspecting the various theatres with the view of ascertaining the necessary precautions that are taken against fire, and also for the purpose of suggesting additional means of safety. Although it has been shown that in many instances there is a laudable intent on the part of managers to guard against accident, there is still room for a great deal of improvement in the existing arrangements. For instance, it has been ascertained that in some of the places of amusement, although an iron curtain is provided, the proscenium arch which supports it is made of the lightest wood-work, affording the poorest possible barrier against fire. In fact, in the occurrence of the latter, no surer means of allowing the flames the freest possible course to the galleries could be adopted. Then, also, there are, in many instances, more or less direct communications between the upper part of the stage and the open, inflammable structures of the ceilings and domes. An inspection of the apartments under some of these so-called amusement palaces disclosed the existence of dry rubbish in dangerous proximity to the furnaces and gas-jets. Altogether there is hardly one of the public places of amusement that can be considered absolutely secure in case of a conflagration. This is partly due to the fact that most of these buildings were constructed before the necessities of guarding against the occurrence of fire were sufficiently emphasized, and partly to the impossibility of making many of the required changes without virtually rebuilding the structures. But these are no arguments against the adoption of the most thorough means of obviating future calamities. It is gratifying to learn that the authorities intend to enforce the requisite regulations upon delinquent managers.

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SPREADING SMALL-POX.

A rather curious fact, illustrating one phase in human depravity, has been brought to the attention of the health office of a village in New Jersey. It appears that a young woman, who had left that locality in consequence of some petty scandal, resolved to be revenged upon her gossiping enemies. While seemingly awaiting an opportunity to this end, her brother became stricken with small pox, in this city, whereupon she caused his transfer to a vacant house in the village aforementioned, since which time she, with her mother, has maintained free intercourse, for several days, with the neighbors and tradesmen in the vicinity. Under ordinary circumstances the case might be considered as one in which the fear of being transported to a pest-house overbalanced every consideration for the safety of the patient or the public. But an altogether different aspect is given it, in view of the expressed threat, on the part of the miserable wretch of a girl, to spread the disease in the village. It is somewhat difficult, even in imagination, to compass the extent of criminality which this case illustrates, and, for the sake of sparing the blushes of ordinary fiends, we trust that the story, as to motives of action, is without foundation. But, aside from this being so or not, the apparent ease with which this case was transferred from this to a suburban locality, in a public hack, which was evidently used by other innocent persons afterward, is a matter for suggestive contemplation by the Health Boards of this and other cities. Doubtless the innocent parties who may expose themselves to the sources of contagion in the vehicle will wonder how they could have caught the disease.

# Reports of Societies.

## NEW YORK PATHOLOGICAL SOCIETY.

*Stated Meeting, November* 23, 1881.

DR. T. E. SATTERTHWAITE, PRESIDENT, IN THE CHAIR.

### ANEURISM OF THE INNOMINATE ARTERY.

DR. EDWARD L. PARTRIDGE presented a specimen with the following history: On the evening of November 9th he visited the patient, and learned that he had been in bed and in the house for that day only. He was hoarse, speaking with difficulty above a whisper, and coughed constantly. His pulse was 90. Temperature normal. His expectoration was quite profuse, muco-purulent, and suggested tracheitis in addition to catarrhal laryngitis. Auscultation of the lungs, without inspection of the chest (as the patient was sweating, and the room chilly), showed slight bronchitis. He attributed his illness partly to exposure, and partly to having talked more than usual at the time of the recent election.

During the last eighteen months he had had slight but frequently repeated attacks of hoarseness, and persistent cough. His wife stated that in his sleep his breathing was noisy. He had observed for some weeks that in the morning, on arising, his face was puffy, the right side being much more swollen than the left. There was no history of syphilis or rheumatism; his age was thirty-four. He passed a restless night.

On the following day, inspection and careful examination of the thorax showed slight bronchial catarrh, involving the right more than the left lung. Some fulness could be observed above the clavicle to the right of the sternum. In and above this situation there was an extensive scar, that seemed to indicate the burrowing of pus which had attended a bullet-wound of the neck received in 1864. Palpation disclosed distinct pulsation of the upper part of the sternum, while the finger, pressed behind or just above the manubrium, appreciated a distinctly expansive pulsation. Percussion showed an area of dulness three and one-half or four inches transversely, and two and one-half inches from above downward bounded by the median line, and above by the clavicle. The heart-sounds were normal. No bruit was present anywhere. Pressure backward above the sternum greatly distressed the patient, producing a sense of suffocation. The radial pulse was weak, but showed no difference in time or force between the two sides.

Pulse was 110, and temperature 101° F. His cough was attended by moderate expectoration, and had no harsh or ringing quality. On the 11th he was much worse. His pulse was 160, temperature 100° F. At times there were slight blueness of the finger-nails and of the face, the right side of which was decidedly swollen, owing to interference with return of venous blood.

On the morning of the 12th his condition was about the same. Dr. Loomis, who saw him then, regarded the condition as aneurism of the innominate, the possibility of a tumor being admitted, but doubted. The interference with the respiratory function was evidently from pressure of the aneurism upon the trachea. The right lung was congested.

Signs of exhaustion were very pronounced. In the evening his pulse was 120, and he was generally easier. His respiration, however, was very difficult and fatiguing to him. Dr. W. T. Bull, who saw him, felt that any operative procedure, which would be necessarily difficult and prolonged, was not worthy of consideration. The use even of an anæsthetic would have been highly dangerous. Death occurred at two A.M., November 13th. The autopsy and removal of the specimen were performed by Dr. Bull.

On removing the skin, superficial fascia, and dividing the sterno-mastoid muscle, the upper portion of the tumor became visible, extending two inches above the sternum, and from the left sterno-clavicular articulation to the junction of the inner and middle thirds of the clavicle on the right side. The specimen was removed *en masse*.

The aneurism involved the innominate artery chiefly. Anteriorly it had produced erosion of the sternum, and the sterno-clavicular articulation was exposed. Posteriorly it pressed against the trachea, the chief point of pressure being at a level with the origin of the right bronchus, the tracheal wall being extremely thin—one-eighth of an inch—and rupture would have certainly taken place at this point within a short time. The aorta was extensively atheromatous from its origin, and somewhat dilated. The heart was not enlarged, the cavity of the left ventricle being slightly dilated. The valves were sufficient, each segment of the aortic valve being fenestrated.

Firm fibrinous layers occupied the upper and anterior parts of the sac.

### EXCESSIVE DILATATION OF AORTIC ORIFICE AND SEMILUNAR VALVES, WITH GREAT ATTENUATION OF THEIR CUSPS, IN A CASE OF ANEURISM OF THE ASCENDING PORTION OF THE ARCH.

DR. E. C. WENDT presented a specimen taken from the body of a man, aged forty-eight, who had died at the St. Francis Hospital. The history was of interest only inasmuch as the symptoms and physical signs had not been sufficiently characteristic to make the diagnosis of aneurism probable during life. A prominent symptom had indeed been the presence of a loud and blowing systolic murmur, most distinctly audible over the base, and projected into the carotids, but this had led merely to the recognition of aortic disease, without establishing the existence of aneurismal dilatation.

At the autopsy, the first thing to attract attention about the heart was the excessive dilatation of the coronary veins, which appeared in some places as thick as a finger.

The left ventricle was much hypertrophied, and greatly dilated. The cusps of the semilunar valves were extremely attenuated, looking as if the least additional strain would have resulted in their rupture. They were also very much stretched, to accommodate themselves to the widened orifice. The cusp immediately above the posterior mitral flap measured two inches at its free border. The adjoining cusps were, however, only an inch long. This inequality of length was a noticeable feature of the case.

The right ventricle appeared as a mere appendix of the left, and the disproportion between the amount of blood that these cavities could hold must have been very great, even during the life of the patient.

As aneurism was not of itself sufficient to lead to hypertrophy of the ventricle, it was probable that the aortic insufficiency had antedated the develop-

ment of the former. Extensive atheromatous changes doubtless were the causative factors of both morbid alterations.

Dr. Wendt also presented a specimen with the following history, furnished by Dr. Haig, House Physician to St. Francis' Hospital:

VALVULITIS DEFORMANS AT THE AORTIC ORIFICE—LOBAR PNEUMONIA—SUDDEN DEATH.

H. L——, aged thirty, native of Germany, a waiter by occupation, was admitted to the St. Francis Hospital, in the service of Dr. Lellman, November 3, 1881. The patient had been addicted to the excessive use of alcoholic drinks for many years. He had an attack of articular rheumatism, which confined him to his bed for two months, about three years ago. Ever since that time he was subject to dyspnœa on exertion, and occasional attacks of spontaneous palpitation. Otherwise he was in robust health, being a man of exceptionally powerful physique—almost an athlete in build. Five days before admission he was seized with a severe chill, and soon developed the symptoms of a croupous pneumonia affecting the lower lobes of the left lung. The physical signs were especially marked posteriorly. At midnight, on the evening of his admission, his temperature was 104°, his pulse 110, and his respiration 40. A loud, long-drawn systolic murmur was distinctly audible over the apex of the heart, but the cardiac rhythm did not appear to be disturbed. The pulse remained of poor quality, however, in spite of appropriate treatment.

On the following morning the patient's temperature had fallen to 101, and he appeared to be quietly sleeping. Later on, in the course of that day, on attempting to give him some stimulants, a peculiar expression of his countenance attracted the attention of the attendants, and a few minutes later he abruptly fell back in his bed, and died in sudden collapse.

An autopsy was made on the following day by Dr. Wendt. The organs in the abdominal cavity showed only the ordinary changes referable to venous congestion. In the chest the lower lobes of the left lung were found to be in the gray hepatization stage of croupous pneumonia. But the disease did not extend to the anterior surface, being most marked behind.

The heart was greatly hypertrophied in its left ventricle, but only slightly dilated. The aortic valves were found to be transformed into a rough, misshapen ring of rigid tissue, containing calcareous deposits. Individual cusps could not be differentiated one from the other. Between their remnants there existed only a narrow slit, barely admitting the tip of the little finger. The other valves appeared normal.

Dr. Wendt thought the case interesting, because it again forcibly illustrated the danger of sudden death from some intercurrent disease in chronic valvular lesions, even when marked disturbances of compensation had given no premonition of impending peril. Of course, cases of sudden death, especially in aortic mischief, were not very uncommon, and might occur even without any interourrent disease.

The generally accepted explanation of such an occurrence was over-distention of the left ventricle, leading to speedy cardiac paralysis. Such an interpretation would hardly cover this case. He thought that the sudden disturbance of a previously fair regulated compensation was directly owing to the pneumonia, which, though not extensive, had nevertheless taken the system by surprise as it were, and thus brought about a rapidly fatal termination.

Finally, he wished to say a word about the use of the term "*valvulitis deformans.*" He was not aware that it had been previously employed, and, although word-coining was a rather reprehensible practice in medicine, yet this compound seemed to him an eminently proper one. It was a concise anatomical expression, indicating a localized lesion. It might appropriately be used for all endocarditic processes involving or confined to the valves, and producing a real deformity in their shape, as was the case in the present instance.

CHRONIC PERIMETRITIS AND VAGINITIS, WITH PURULENT VESICAL CATARRH, CAUSED BY A PESSARY WORN WITHOUT INTERRUPTION FOR TEN YEARS, AND FIRMLY ATTACHED TO THE CERVIX BY A BRIDGE OF TISSUE.

Dr. Wendt also presented the uterus and its appendages in this case, with the pessary still *in situ*. The history had been furnished by Dr. Haig, house physician of the St. Francis Hospital.

M. D——, aged thirty-nine years, native of Ireland, widow. Admitted to the St. Francis Hospital October 28, 1881; service of Dr. Lellman. She had suffered from rather obscure uterine symptoms for many years. About ten years ago a pessary had been introduced, and had not been removed since. Last May she began to suffer from occasional attacks of fever, with loss of flesh, failing appetite, and slight cough. Her symptoms grew progressively worse. On admission to the hospital there was great prostration, but no fever. There were some rather ill-defined pulmonary symptoms, and a tendency to diarrhœa, with very offensive stools. There was but little discharge from the genital tract. A vaginal examination revealed the presence of a pessary, which was firmly lodged high up in the vagina. Attempts to remove the same proved unavailing, as it seemed to be firmly attached to the uterus. The patient grew steadily worse, and died, apparently exhausted, on the 4th of November, at 1 P.M.

At the autopsy, which was made on the following morning, moderately extensive lesions of a catarrhal phthisis were found. The apex of the left lung was tranformed into a cheesy mass, but breaking down was nowhere seen. About the uterus, and especially posteriorly, the evidence of repeated attacks of perimetritis were visible. In the vagina a pessary was securely lodged. The instrument had a roughened surface, and showed incrustations at several points. The vagina below the pessary was much contracted. A bridge of completely organized tissue helped to secure the instrument firmly fixed in its position. This bridge was about half an inch wide and several lines in thickness. It extended from the posterior surface of the cervix over the pessary to the wall of the vagina, and was situated exactly in the median line.

The bladder was contracted, and contained about two ounces of a thick, purulent fluid. The uterus showed no flexion, but looked small and atrophic. Tubal dropsy existed on one side. The ovaries appeared normal.

In this case, probably, no doubt could exist that whatever condition had originally prompted the introduction of the pessary, its presence in the vagina for so many years had had a highly deleterious effect upon the patient, both locally and constitutionally. It had unquestionably favored perimetritic processes, and was probably the sole cause of the existing purulent vesical catarrh. The discharges incident to its prolonged presence had been a constant drain upon a constitution already weakened by pulmonary mischief. The practical lesson to be

derived from the study of this case was, therefore, readily seen. It was to the effect that too much care could not be taken in impressing upon the minds of the patients the necessity of occasionally removing pessaries, even if the use of such instruments was to be persisted in for a long period. Probably in this case the patient's life had been materially shortened by negligence in this respect.

TUMOR OF THE CEREBELLUM (ALVEOLAR GLIO-SARCOMA).

Dr. Wendt also presented a brain with the following history, furnished by the house physician, Dr. Haig: James D. S——, forty-two years of age, a native of the United States, married, and a carpenter, was admitted to the service of Dr. Lellman, at the St. Francis Hospital, July 14, 1881. The patient's family history was unimportant. He had never had rheumatism or malaria. He had a chancre twelve years ago, but had no eruption, loss of hair, or sore throat. He had led a pretty fast life when a young man; has been a rather hard drinker. In 1864, while engaged on a war-transport, he was struck on the top of the head by a large piece of coal and remained unconscious for nearly four days, after which time he was able to gradually resume work without any feeling of distress in his head. The spot where he was struck is now marked by a deep cicatrix. About three years previous to admission he lost his hearing on the right side. This came on gradually, and some weeks elapsed before it became complete.

The patient was well otherwise up to two months ago, when he had vertigo with nausea, but did not suffer enough to confine him to his bed at once. Somewhat later he felt so weak that he was obliged to remain in bed. He had then no marked vomiting or headache. During the past six weeks he has eaten but little food, and has lost much flesh and strength. He had no pain or tenderness over abdomen. On admission to hospital, patient was quite anæmic, and very much emaciated. No disease of heart, lungs, etc., was discoverable. He complained of nausea, but there was no vomiting. He was so weak that he was unable to walk. The abdomen was slightly retracted. Respiration, 26; pulse, 100, weak, but regular. Urine: specific gravity, 30; alkaline. Repeated examination of it failed to show any abnormal constituents. Patient's treatment consisted of tonics and a liberal diet, and he seemed to improve for three weeks, when he was able to go about the wards and assist in light work. About this time he began to complain concerning his left ear. He was soon unable to hear, unless spoken to loudly. The ear was examined, and considerable inspissated cerumen removed. It was syringed daily with tepid water, but hearing did not improve, and in about three weeks on left side was entirely lost. He was then put on the iodide of potassium.

August 3d.—Patient complains very much of pain in head, principally along frontal region, with some at posterior portion just above nape of neck. It was so severe that it prevented him from sleeping. When walking he would stagger from side to side, but appeared to incline more to the right side than to the left. He was quite unable to stand still when he had his eyes closed. His abdomen was slightly retracted. Pulse, 110, weak, but regular. Has full control over bladder and rectum, also over muscles while in bed. He was then able to move his limbs in all directions. The appetite was very poor. Pupils somewhat dilated, but reacted well.

August 10th.—Patient remains in about same condition, except that abdomen is more retracted, and pulse slightly increased. Pain has to be controlled by opium.

August 17th.—Abdomen more retracted, "boat-shaped." Pulse, 120. Respiration varies from 8 to 14. Some respirations are short and shallow, while others are deeper. At different intervals he will stop breathing for nearly half a minute. Patient complains very much of his head, also of pain in stomach.

August 24th.—Patient somewhat better as regards pain in head, but pulse remains at 120 to 130. Respiration, 13; abdomen still markedly retracted. Has power to move all his vessels while in bed, but he is so weak that he is unable to walk. Urine and fæces passed normally.

September 3d.—Pain in head entirely gone. Patient sleeps well and appetite good. Abdomen still retracted. Pulse, 130, weak, but regular.

Patient continued as above until about October 1st, when pain in head returned with increased severity. The pulse still remains 130. Respiration, 7 to 14. Pain in head so severe that it has to be controlled by opiates. Has had no paralysis of any of his muscles, but cannot walk, as he is too weak. Patient is very much emaciated, and unable to digest much food. Pupils still equally dilated on both sides. Is constantly handling penis, so that this organ is very much inflamed. Has also developed several bedsores on sacrum and thighs.

October 10th.—Patient began to develop pulmonary œdema. Pulse, 140. Respiration, 10 to 13. Abdomen very much more retracted than formerly. Incontinence of urine and fæces. Œdema and congestion of lungs increased until October 15th, when the patient died.

In view of the peculiar symptoms, *i.e.*, the auditory disturbances, the change in breathing, the staggering gait, considered in conjunction with other manifestations—a diagnosis of cerebellar tumor was made during the life of the patient. Dr. Lellman decided to give him the benefit of the doubt as to the specific nature of the growth, and it seemed at first as if the antisyphilitic treatment was attended with a decided amelioration of the morbid phenomena. Subsequent events, however, showed that the tumor was not a gumma, but an alveolar sarcoma, and that, consequently, the apparent improvement was accidental.

At the autopsy, no noteworthy changes in the organs of the trunk were discovered. There was profound anæmia, and the emaciation incident to long suffering. On removing the calvarium, the dura mater appeared normal, the longitudinal sinus contained a thick clot of blood, and the other sinuses appeared filled with dark fluid blood. The pia mater, especially of the convexity, and particularly in front, was somewhat thickened, opaque, and excessively vascular. Some abnormal adhesions also existed between it and the cerebral substance. In other respects the cerebrum appeared healthy.

The left lobe of the cerebellum was almost entirely replaced by a neoplasm which had a pale pinkish color, and was of rather firm consistence. Externally, however, the configuration of the parts was not much altered, as a covering of apparently healthy cerebellar substance hid the growth from view, except at the under surface and adjoining the medulla oblongata. Further examination revealed the fact that the growth was distinctly circumscribed, and surrounded by what appeared as a thin capsule. A gelatinous substance separated the tumor from the pons and medulla. Partial destruction of the

processus ad pontem and the processes ad medullam was evident. The portions of the cerebellum which remained intact, or were only mechanically altered by compression, were a layer above the horizontal fissure, and some of the superior portions of the square and semi-lunar lobes.

On cross-section, the fleshy hue of the growth was seen to be offset here and there by paler areas, and the whole surface was sprinkled over with dots and streaks of a red color. Breaking-down had taken place in a few places, thus giving the growth a spongy appearance in those localities.

Microscopically examined, the tumor was ascertained to belong to the glio-sarcomata. But its structure was not in all respects a typical one. The rounded corpuscles, about half as large again as leucocytes, which made up the main bulk of the sarcoma, were in many places arranged in groups of a distinctly alveolar appearance. Such aggregations of cells also very plainly showed a surrounding reticulum of not over-delicate connective tissue. Some parts of the tumor were constituted almost exclusively of these round cells, although even here a delicate fibrillar stroma could be discovered. There was an abundant supply of blood-vessels within the neoplasm, showing no uncommon feature, save, perhaps, the great delicacy of the vascular walls.

Finally, it may be stated that a careful naked eye and microscopical examination of the cerebral and cerebellar blood-vessels revealed no syphilitic alteration.

Dr. Robert Newman presented a specimen of

CARCINOMA OF THE BREAST.

[Vid. page 706.]

Dr. John A. Wyeth presented a specimen with the following history:

MYXO-SARCOMA OF NECK—LIGATION OF COMMON INTERNAL AND EXTERNAL CAROTID, SUPERIOR THYROID, LINGUAL AND FACIAL ARTERIES, AND THE EXTERNAL JUGULAR VEIN.

John O——, fifty-four years of age, Scotchman, long resident of New York; sexton. Eighteen months prior to March, 1881, noticed a swelling on left side of neck. Health had been good up to three years before this time, when he began to decline without any appreciable cause. Had been admitted to the New York Hospital in January, 1881. An operation for removal of the tumor was not recommended—injections of arsenic were here used. Patient came under his observation in April, 1881. At that time there was a prominent bulging of the left side of the neck from the lower jaw to the clavicle. The trachea was displaced, the pomum Adami being pushed one inch to the right of the median line. His breathing was extremely difficult, and he suffered intensely from pressure of the mass on the brachial plexus. The patient was anxious to be operated upon. Dr. Wyeth explained to him that the tumor was malignant in all probability, and would recur if removed, and that his chances of living through an operation were very small. The patient insisted on something being done, and with the advice of Dr. Willard Parker, who kindly saw the case in consultation, Dr. Wyeth consented to attempt the removal of the mass, or as much of it as pressed upon the trachea and brachial nerves.

Assisted by Drs. Parker, Stimson, Banks, Symington, Alexander, and Ayers, he performed the operation on April 28, 1881. The incision extended from the ear to the clavicle. The external jugular was tied and then the sterno-mastoid and omo-hyoid muscles were divided. Dissection into the tumor revealed that the carotids and their branches, the internal jugular vein, and the pneumogastric nerve were imbedded in its meshes. He tied the common carotid with a cat-gut ligature about the size of an A violin string. The external and internal carotids, the facial, lingual, thyroid, and occipital arteries were also tied with two ligatures and divided between them. The pneumogastric nerve was dissected out for about two inches. At this step of the operation it was discovered that the tumor involved the subclavian artery and vein and the thoracic duct, and that its complete removal was impossible. Portions of the upper and outer sphere were removed in order to relieve as much of the pressure as was possible, and the wound was closed, with drainage secured. About twenty-five ligatures were applied. The hemorrhage had not been extensive. The patient became conscious three or four hours after the operation, and complained of intense pain in the arm and wound. Morphine was administered hypodermically. He remained quiet after this; became unconscious later; gradually sank, and died, twenty-six hours after the operation, from exhaustion due to the long-continued suffering and bad condition, but chiefly to the operation.

The microscopical examination, made by Drs. Welch, Wardwell, and himself, showed the tumor to be myxo-sarcoma.

TUBERCULOUS DEGENERATION OF LYMPHATIC GLANDS OF THE NECK.

Dr. Wyeth also presented a patient with the following history, furnished by Dr. Anderson, of the house staff at Mount Sinai Hospital:

Henry F——, twenty-two years of age, butcher, resident of New Jersey, and a native of the United States. Father living and healthy; mother died of consumption; one brother living and healthy; two sisters living—one in good health, the other is said to have "trouble around her heart;" two brothers dead, aged five and fifteen years, cause of their death, unknown; one sister, aged thirty-two, died of consumption. Patient had been perfectly well up to three years ago, 1878. Then a small lump, the size of a pea, appeared on the left side of his neck, gradually growing larger. At various times since then other such lumps have appeared and increased in size. In the spring of 1881 he was admitted to the New York Hospital, where he remained one week. He says he was informed that no operation would be undertaken on him, and he was discharged. He then consulted Dr. Jacobi, who sent him into Dr. Wyeth's service, at the Mt. Sinai Hospital—admitted June 13, 1881. At this time there was a protrusion of the left side of the neck from the jaw to the clavicle, projecting as far out as the level of the inferior maxilla. He was suffering considerable pain. On June 19th Dr. W. removed some enlarged glands, about ten in number, and varying from a hazel-nut to a walnut in size. This operation was in the lower half of the neck. The external jugular vein was tied. Owing to the general hemorrhage, the operation was tedious, lasting two hours.

Patient recovered promptly, and on July 10th, the incision was continued to the tragus of the ear, and about twenty more tumors, one or two of large size, were removed. The sterno-mastoid muscle was divided, as well as the omo-hyoid. Five glands were removed from the sheath of the internal jugular vein, to which they were closely adherent. About thirty

ligatures were applied in both operations. No vessels of any magnitude were divided. The patient recovered well. November 23d he was still well, and the wound had healed. No trouble from the division of the mastoid muscle. Drs. Welch, Wardwell, and himself had examined the tumors, and found them tubercular, the central portion being degenerated and occupied by masses of tubercle, and the corpuscles thickened, with increase of the spindle-cells of connective tissue.

(To be continued.)

## Correspondence.

### THE BLOOD FROM THE SPLENIC ARTERY.

To the Editor of the Medical Record.

Sir: I read the answer to my letter, from Dr. Hammond, with a great deal of interest; but the main issue is avoided altogether. Will Dr. Hammond reiterate that he believes a pint or more of clotted and fluid blood could have been *pushed out* of the arteries, in President Garfield's case, by the embalmer's injection? That is the question. That a certain small amount of blood, under certain conditions, normal or abnormal, may be in the arteries after death, is well known. But practically the arteries are empty after death.

New York arteries may be peculiar; but here, Prof. H. C. Chapman, when he was coroner's physician, examined hundreds of bodies, and always found the arteries empty.

Dr. Morris Longstreth, of the Pennsylvania Hospital, only last week, without any reference to this discussion, examined the splenic arteries of two bodies, and found them absolutely empty. The injection thrown into the arteries in the President's case was a "good thing," because it proved the leak which existed before death. The solution of chloride of zinc escaped through the leak, as it escapes through a rent in a hose when the fireman is testing the hose. He screws up one end tightly, and drives water through the other end under pressure. If there is a hole, the water spurts out: and so it was with that famous splenic artery. Very truly your friend,

Wm. Hunt.

Philadelphia, December 12, 1881.

### FLORIDA IN WINTER.

To the Editor of The Medical Record.

Sir: On my way from Sandford to Jacksonville and home, it occurred to me that a brief letter to the Medical Record might have a little value for those of your readers who may not have seen Florida, and yet are called to give advice to invalids in search of recreation in winter. The choice of route from New York to Florida must be determined by the preference for sea or land transportation. For those who prefer the former, the steamers from New York to Savannah are said to be commodious, seaworthy and in every other condition admirable. It is difficult to imagine any railway travelling more satisfactory than that over the Pennsylvania Railroad, and by the Coast Line through Weldon, Charleston, and Savannah, and the "Short way" to Jacksonville. You may take a "Pullman Sleeper" at 9 P.M. at Jersey City, and go in the same car continuously to Jacksonville. Although the way-side "eating places" are not positively bad, I would advise travellers to take a lunch-basket, stocked with such articles of food as their experience has shown to be nutritive and digestible, so that they may have the periods of time allotted for eating at stations for exercise. A cup of coffee of fair quality may always be got at such stations to add to the provisions carried. Although there are advantages connected with the use of the "through Pullman," I agree with our sanitary authority, Dr. Rauch, of Chicago, that "one night out" is as long as a Pullman Sleeper should be used without change. In twenty-four hours a Pullman car becomes unclean, and it is not possible for the porter to cleanse it efficiently while the passengers are in it. As a sanitary precaution, transfers should be made at least once in twenty-four hours, and the Pullman then vacated and dismantled, carpets removed and shaken, mattresses aired, and the interior of the car thoroughly scrubbed out. I do not know how often the mattresses of the Pullman cars are made over, but my conviction is that they are usually unclean. They are covered with stuff, and so upholstered as to be kept too long in use, and therefore get saturated with animal exhalations. It would be better to have them made over, and the hair disinfected, much more frequently than they are. They should also be covered with washable slip-covers, to be removed and cleansed after every twenty-four hours of use. The colored blankets, although good in quality, have a suspicious odor oftentimes, as though they had been shut up with the mattresses after having been saturated with animal exhalations. It is not congenial to suggest the existence of these faults, but I do it in the interest of health, and to be helpful to a company which has done so much to mitigate, if not remove entirely, the horrors of night-travel. The water-closets of the Pullmans are not yet perfect. The fault is, however, largely with the porter. That servant is not always well trained, or furnished with the appliances with which to cleanse the closets. It would be well to provide, in the construction of the Pullman car, a small, well-lighted and ventilated closet in which to keep the cloths and brooms needed for the thorough cleansing of the car, and to give better ventilation and lighting to the closets in which the porter stores the clean and soiled linen and towels.

I observed that the conductor on our sleeper made his toilet in the open car in the presence of the ladies, and that we thus had an unsolicited opportunity of observing his suspenders and the magnitude of his sleeve buttons. This little offence should be prevented, and the porter and conductor kept up in tone by very frequent inspection, discipline, and reward.

At Jacksonville, the experience in Florida proper commonly begins. There are several excellent hotels in the town, and many inducements for a more or less prolonged sojourn. The taste of the American people is unmistakably in favor of large hotels, and the so-called conveniences which they afford. The proprietors of such caravansaries make most commendable efforts to supply the wants of their patrons.

Of course medical men know very well that the "population-rate" of a large hotel is so great as to be incompatible with the highest salubrity, even when every possible sanitary precaution is used. They are not to be blamed if the vast majority of their patrons know nothing about sanitary matters, and care less. They meet fully the demands of the average intelligence of their guests. A sanitarian has a very high ideal, and, therefore, finds

in the population itself of a hotel, a condition making a high degree of salubrity impossible. Few people like ventilation, and the majority of the occupants of a hotel demand the exclusion of fresh air from halls, corridors, dining- and sitting-rooms, and prefer to live in an atmosphere which would poison a toad. At all sanitaria, hotels should be built upon the cottage plan, and those enormous dining-rooms, in which hundreds of human beings congregate to feed, and, meanwhile, pollute each other with crowd-poison, abolished. In large cities such huge hotels are, perhaps, necessary evils, but the day will come when, even there, more open fireplaces and new methods of forced ventilation, and the providing of baths and water-closets for common use in detached portions of the building, will lessen the evils of the present congregate plan. In this State a somewhat new problem presents itself, in the fact that all houses should be constructed without cellars, and so raised on underpinning as to allow a clean sweep of light and air beneath them. Indeed, it is a question whether such a mode of construction should not be adopted everywhere for dwellings. I have for more than twenty years believed that cellar-atmosphere is a most prolific cause of disease and death. I believe that it increases seventy-five per centum the risk from malarial disease all over our country. Through this State the native population, as by an instinct, raise their simple cabins three or four feet above the ground, and allow air and light to pervade the space so made beneath the ground floor. I advise all travellers to avoid those hotels and other domiciles in the South which are not so constructed.

The avenue into Florida is the St. John's River. Upon it are excellent steamboats, officered by an admirable class of men.

Nowhere, in my very extended travels, have I found men who understand their peculiar calling better, or discharge their duties with more intelligence and fidelity. They are sober, vigilant, and polite, and constantly striving to make the service, in which they take a just pride, better. They are fully aware of the defects in the service, and are diligently striving to remove them, and to add to the comfort of the travellers whom they so willingly endeavor to please. The sail on the St. John's to Sandford is full of interest. The river is like a chain of lakes. Lake George, the largest of these expansions, is seventeen miles across. The river varies in depth from four to twenty-five feet. It is tidal for about a hundred miles from the sea, and has a current outward of about one and a half to two miles an hour. The shores are nowhere high, but vary in altitude from the water-level to fifteen or twenty feet, and are clothed with a growth of cypress, oak, and pine, and, if you go southward, palm trees. You pass many orange groves, and at every landing see preparations for packing and shipping the products of these groves, and the other fruits of the soil.

Everywhere there is movement. There is a universal spirit of enterprise and industrial activity, and the average Floridean is full of enthusiasm about his native or adopted State. The country is being rapidly settled, and the planting of orange groves, and other vegetables and fruits, is going on with energy, and an ardor that is amusing and instructive. The value of the crop is immense, and the returns unquestionably satisfactory. What misfortunes may overtake the planter in the future we cannot prophesy. It is fair to suppose that he will not be free from the common vicissitudes of the agriculturist. Of the general salubrity of the country, I have no doubt. Of its value as a health resort, I have also no doubt. It is not only advantageous for the catarrhal, rheumatic, and pulmonic invalid, but for the jaded and head-worn, or so called over-worked, man of business. I believe that nowhere in our land can a jaded man or woman so quickly get relief in the winter as in Florida. There is a quality in the winter atmosphere which is most soothing and rest-giving. The winter transportation is conducive to such ease and comfort as the jaded nervous system requires, and the inducements to out-of-door life are numerous and irresistible. The winter season is the *dry season*, and there are more entire days between November and April suited to out-of-door life than anywhere on this continent, unless it may be in some unfrequented portions of Mexico. The drives through the woods are easy and attractive; the fishing and gunning are good; and for those who enjoy the field of nature, there is everything in the flora to captivate and satisfy. With ordinary care, I believe that there is not so much danger of contracting disease from local sources, from December 1st to April 1st, on the St. John's River and the frequented parts of Florida, as there is in the health-resorts of France and Italy. Of course there are not in Florida the æsthetic and social provisions of the latter countries, or those products of old civilization which afford, from historic sources, amusement and instruction; but for the lover of out-of-door life, the student of nature, and observer of climatic advantages, there is much to be desired.

C. R. Agnew, M.D.

St. John's River, Fla., December 9, 1881.

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Case of Epilepsy Cured by Enucleation of the Eye.—Dr. H. Rosencrans, of Elgin, Illinois, relates, in the *Chicago Medical Journal and Examiner*, the following history: "The patient here referred to was cured of epilepsy by the enucleation of an eye. Mr. K——, of Indianola, Texas, for years past had been troubled with epileptic fits. The history given by himself to me was that about ten years ago he lost the sight of one of his eyes by taking "cold" in it. Since then he has had spells of his eye inflaming, paining him very much, and usually bringing on an epileptic fit. I advised its enucleation. I told him that it was possible, and even probable, that it might be the means of curing him of his epilepsy. He consented to its removal. On the 9th day of February last I removed it. While under the influence of chloroform, and while I was in the act of removing the eye, he was seized with a fit of epilepsy, and it took four strong men to hold him on the operating table. I kept up the chloroform, and, as soon as his fit left him, lasting about ten minutes, I at once removed the eye. With cooling and antiseptic dressing the socket soon healed. I then, as a constitutional remedy, put him on the use of bromide of potassium. He has had no epileptic fit since."

Zulu Clysters.—The Zulus have an apparently very pleasant and efficacious way of administering an enema. The individual in need of an injection is grasped by two vigorous natives and made to stand on his head. While in this position a funnel, made by sawing off the tip of a cow's horn, is introduced into the rectum. Water *ad libitum* is then poured into the instrument, which done, the parties disperse, satisfied that nature, thus assisted, will accomplish the desired end.

# New Instruments.

## A NEW DILATOR.

By SENECA D. POWELL, M.D.,

ASSISTANT TO THE PROFESSOR OF CLINICAL SURGERY OF THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF NEW YORK.

THE accompanying cut represents the dilator closed and open. The instrument consists of four parallel, rounded, smooth steel rods, supported and united each by two tempered steel brackets, all nickel-plated. It is nine and one-half inches in length, and the dilating part is four inches. It is opened by turning the screw *a*, and the indicator on the dial plate gives the exact circumference in millimetres of the dilating portions. The instrument, when closed, numbers twenty millimetres, and when opened to its fullest extent is fifty millimetres. It was originally devised by me to treat strictures of large calibre situated in the penile portion of the urethra, so as to avoid slitting the meatus, as I frequently found patients who objected to this, so often necessary, procedure. If the meatus will admit a No. 20 sound, the stricture can be dilated to any extent by this instrument. It avoids the introduction of more than one instrument at a sitting. The dilatation, which is parallel, can be made so gradual, and the pressure is so equally distributed, that neither pain, irritation, nor laceration need result. I have used this instrument a great many times during the last five months, and Professor James L. Little has used it in a number of cases, and in each instance with satisfactory results. There is no danger of catching the mucous membrane when closing the instrument, as each bar and joint is rounded. I have had a rubber cover made, which, being slipped over the closed instrument, gives additional security against any pinching of the membrane. I have used this dilator for dilating the female urethra with complete success, and know of no instrument which possesses equal advantages for this purpose. It can likewise be used for dilating the cervical canal, and should any surgeon so wish, can be manufactured with gently curved parallel blades. I am having an instrument constructed upon the same principle for treating strictures of the rectum. In introducing it to the notice of the profession, I claim that it is the only dilator as yet devised by which a stricture can be dilated to the normal calibre of the urethra without interfering with a moderate-sized meatus. It is the only perfect parallel dilator containing four blades which has yet been brought before the profession. This dilator was made for me by Geo. Tiemann & Co., of this city.

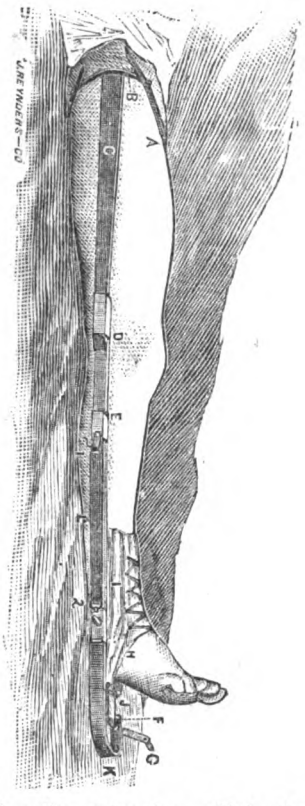
42 WEST FORTIETH STREET, NEW YORK.

## AN APPARATUS FOR EXTENSION AND COUNTER-EXTENSION.

By WILLIAM BUNCE, M.D.,

OBERLIN, OHIO.

I WISH to call the attention of the profession to the following description of an instrument that meets perfectly all that is required in extension and counter-extension in the treatment of fractures, dislocations, and diseased joints. It is simple, durable, and easily applied, and can be adjusted to the limb in any position, flexed or straight. Its power of extension is unlimited, and can be applied all at once, a little at a time, or at any time during treatment, without in any way disturbing the dressings or instrument; or, if desired, a constant elastic extension to any extent can be kept up during the entire treatment. It can be applied to the arm as well as to the leg; to an adult or child. It can be made useful in dislocations as well as fractures, and allows free manipulation during extension.




The following will explain the instrument and its application: A is the perineal pad, buttoned on to B, the perineal pad-adjuster, which is fastened to the upper end of the counter-extending bar C. D and E are sliding-bars, by which any desired length can be obtained, and to which the rubber adjustant for elastic extension is attached at the points Nos. 1 and 2. F is a round bar, to which a crank, G, is attached, the turning of which winds up the cords, J, securing the extension. K is the head of the instrument curving around the foot. H are the laces for adjusting the garters, I.

In applying the instrument, it will be readily seen that by turning the crank any amount of extension can be secured, which is firmly held by the thumb-screws, and if desirable the crank can be removed. When an elastic extension is desired, it can be obtained to any amount by adjusting the rubber belt to the points designated on the sliding-bars and putting it to the stretch and turning the thumb-screws so as to hold it, then adjusting the instrument to the limb, and by turning back the thumb-screws, let the full force of the rubber apply directly to the limb.

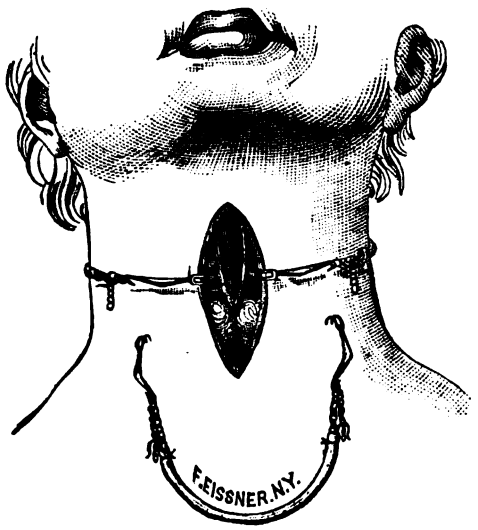
Any kind of appliance, felt or splint, or dressing, can be applied or used at any time without disturbing the instrument. Adhesive straps can be substituted for the perineal pad and garters.

## AUTOMATIC TRACHEAL RETRACTOR.

By A. CAILLÉ, M.D.,

NEW YORK.

The accompanying cut represents a small instrument, which I have found useful when performing tracheotomy. It consists of a rubber-band, at each end of which is fastened a short brass-chain, and attached to the latter are two curved and sharp hooks. The chains are so adjusted that they can be lengthened out or shortened at will, thereby adapting the retractor to small or large necks. In performing tracheotomy, the surgeon is usually fortunate if one trustworthy assistant be on hand, who is expected to administer the anæsthetic, and assist at the wound as well. Now, if the patient is in any way troublesome (as is frequently the case), the operator may




not be able to proceed with the necessary ease and facility. In such a case the automatic retractor will be of service; it will keep the edges of the wound well apart; it may be hooked into the fascia as the several layers are divided, and finally into the tracheal wound. The trachea may be examined at leisure, and there need be no haste in getting the tube into its place. The instrument may be used as a general refractor in operations requiring careful dissections, in different parts of the body; but it is especially applicable to the neck.

303 BROOME STREET.

## ARMY NEWS.

*Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from December* 11, 1881, *to December* 17, 1881.

McCLELLAN, ELY, Major and Surgeon. Relieved from duty at Fort McHenry, Md., to proceed to Fort Trumbull, Conn., and relieve Asst. Surgeon W. H. King. S. O. 224, Department of the East, December 15, 1881.

KING, W. H., Capt. and Asst. Surgeon. When relieved by Surgeon McClellan to repair to Fort McHenry, Md., and report for duty at that post. S. O. 224, C. S., Department of the East.

HOFF, J. V. R., Capt. and Asst. Surgeon. Granted leave of absence for one month. S. O. 222, Department of the East, December 12, 1881.

PERLEY, H. O., Capt. and Asst. Surgeon. Having reported in person at these headquarters, will report to the Commanding Officer, Fort Columbus, N. Y. H., for duty as assistant to the post surgeon and attending surgeon at these headquarters. S. O. 224, C. S., Department of the East.

GORGAS, W. C., 1st Lieut. and Asst. Surgeon. Granted leave of absence for one month, with permission to apply for an extension of one month. S. O. 150, Department of Texas, December 3, 1881.

RAYMOND, HENRY I., 1st Lieut. and Asst. Surgeon. Relieved temporarily from duty at Alcatraz Island, Cal., and to report to the Commanding Officer of the Presidio of San Francisco for duty at that post. S. O. 214, Military Division of the Pacific and Department of California, December 9, 1881.

MADDOX, THOMAS J. C., 1st Lieut. and Asst. Surgeon. Having completed the duties assigned him under S. O. 248, November 3, 1881, from A. G. O., will report in person to the Surgeon-General, United States Army. S. O. 238, A. G. O., December 15, 1881.

## Medical Items and News.

CONTAGIOUS DISEASES — WEEKLY STATEMENT. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending December 17, 1881.

| Week Ending | Typhus Fever. | Typhoid Fever. | Scarlet Fever. | Cerebro spinal Meningitis. | Measles. | Diphtheria. | Small-pox. | Yellow Fever. |
|---|---|---|---|---|---|---|---|---|
| Dec. 10, 1881. | 0 | 17 | 186 | 1 | 88 | 112 | 17 | 0 |
| Dec. 17, 1881. | 0 | 17 | 244 | 5 | 118 | 129 | 33 | 0 |

LOCALIZATION BY THE EYES.—Professor Helmholtz recently addressed the Physical Society on the localization of objects by the eyes. We estimate distance with one eye by the outlines of the more distant objects being covered by the nearer one where they meet, and by the shadows thrown by the anterior objects. These conditions are very rarely overpowered by others, as for instance, binocular vision. This is shown by Dove's pseudoscope, and the fact that closing or blinding one eye makes little difference to the power of judging distance, especially when not very close to the eye. The relative shifting of objects as the eye is moved from side to side, or to and fro, or up or down, which may be called the parallax of motion, is also a strong factor in estimating distance. He concludes from a study of the stereoscope that the perception of the absolute convergence of our eyes is very indistinct, and that only differences of convergence related to apparently near or distant objects produce the stereoscopic effect.

THE SANITARY ENGINEER.—Our excellent and enterprising contemporary, *The Sanitary Engineer*, has been changed to a weekly journal. It is always welcome to our table, and is always filled with interesting and instructive material bearing on its specialty.

THE DIFFICULTY IN FINDING A BALL AFTER IT HAS PENETRATED A CAVITY IN THE HUMAN BODY.—Dr. Benjamin R. Swan, of San Francisco, Cal., writes: "I have just taken my RECORD of October 22d from the post-office, and am delighted to see that some one has spoken upon 'the difficulty in finding a ball in the dead body.' I was on the point of doing so myself, as it seemed to me that the public were, through the press, being wrongly instructed by both lay and *medical* instructors. No one could speak more to the point than Dr. Beach, and I wish simply to say that my experience endorses his words in every particular. You are aware that I filled the office of coroner in this city and county three years. My annual reports, which you have, 1874–77, give one hundred and twenty-five deaths from gunshot wounds. I can therefore claim some experience, as in nearly every case an autopsy was made. The history of some of these cases is almost incredible. I think in two cases we gave up the search; could not find the ball. In a third case, like the two mentioned, there was a wound of entrance in the abdomen, none of exit. It was a criminal case, and a question of *two* pistols of different calibre made it of prime importance to find the bullet; over *six* hours were spent; the ball had entered the cavity of the abdomen, wounding, *I think*, the intestines, and there trace was lost. The body was eviscerated, etc., and we finally determined that the ball *must* have passed out *somewhere*, though we could find no wound; but after, as I remarked, six hours' work we found the ball lodged in the muscles between the right shoulder-blade and the ribs adjacent, the track of the ball obliterated. During the late terrible ordeal *I*, like every other doctor, was asked, 'Where do you think that ball is?' My invariable reply was, 'Judging from my experience when a bullet enters a human body and penetrates a cavity, and particularly that of the abdomen, its location is a simple unknown quantity.' This opinion is greatly strengthened, if possible, by the President's case, and I feel quite sure that in a given case of gunshot wound, if the ball cannot be *readily* found, it had better be left alone. And I think, too, that the medical gentlemen who have been so fierce to have the ball '*gone for*' as the one thing needful, if they will put themselves under the tuition of Dr. Beach, will change their opinions.

PAPAIVA.—Papaine, also known as the vegetable pepsin, is extracted from the *carica papaya*. The important subject of vegetable digestive ferments has made a great step forward, and the satisfactory results obtained by Bouchut and Wurtz in their observations, serve to direct the attention of the profession to the great clinical and therapeutical value of papaine. The milky juice which contains the papaine is white, whether coagulated or not, slightly bitter and styptic, quite devoid of acrid taste, and slightly acid in reaction. It is so rich in albumen and fibrin that Vauquelin likened it to the blood deprived of its coloring matter. It is obtained by incising the green fruit, and is immediately bottled and shipped, either pure or mixed with ten to twelve per cent. of alcohol, to prevent fermentation. The pure juice soon coagulates, that which has been mixed with alcohol remains fluid, and, if undisturbed, separates into a clear liquid, and a white precipitate, consisting in great part of albumen, fibrin, and considerable papaine is also thrown down. Another precipitation with alcohol yields crude papaine; which, after several washings with alcohol, is dissolved in water, which takes up only the alkaloid. A final precipitation throws down the pure papaine. In proper doses the drug has an energetic digestive action upon all albuminoid matters, possessing the properties of highly active pepsin, over which substance it has the advantage that its effects are always constant and identical. In an acidulated solution its action is still more energetic. It does not bring about mere solution of the albuminous substances, but causes a true digestion, producing peptones of milk, fibrin, meat, and eggs, which are completely dialyzed, and consequently readily assimilable. Very successful experiments were made by Dr. Bouchut at the Congress of Rheims. The results of artificial digestion confirm the facts observed in the clinics. In gastralgia, dyspepsia, lientery; in all cases of gastric derangement from insufficient secretion of gastric juice, papaine, in the form of a syrup, an elixir, etc., rapidly re-establishes the normal digestion. It is used with great success in gastritis, gastralgia, gastro-enteritis, diarrhœa, vomiting of children, etc.—*Riv. Clin. di Bologna*, August, 1881.

AN EXAMPLE WORTHY OF IMITATION.—In the city of Brussels, whenever a birth is registered the Registrar hands to the parent, gratuitously, a little pamphlet of five pages containing short and plain directions for the management of children. In Paris the mortality among infants is so enormous that it is proposed to introduce a similar practice there.

MENTAL ADAPTABILITY IN SCIENTIFIC WORK.—"But that which I would chiefly note, in relation to the great variety of minds which are here, is that it is characteristic of that mental pliancy and readiness for variation which is essential to all scientific progress, and which a great international congress may illustrate and promote. In all the subjects for discussion we look for the attainment of some novelty and change in knowledge or belief; and after every such change there must ensue a change in some of the conditions of thinking and of working. Now, for all these changes, minds need to be pliant and quick to adjust themselves. For all progressive science there must be minds that are young, whatever may be their age.

"Just as the discovery of auscultation brought to us the necessity for a refined cultivation of the sense of hearing, which was before of only the same use in medicine as in the common business of life; or, as the employment of the numerical method in estimating the value of facts required that minds should be able to record and think in ways previously unused; or, as the acceptance of the doctrine of evolution has changed the course of thinking in whole departments of science, so is it, in less measure, in every less advance of knowledge. All such advances change the circumstances of the mental life, and minds that cannot or will not adjust themselves become less useful, or must at least modify their manner of utility. They may continue to be the best defenders of what is true; they may strengthen and expand the truth, and may apply it in practice with all the advantages of experience; they must secure the possessions of science and use them well, but they will not increase them.

"It is with minds as with living bodies. One of their chief powers is in their self-adjustment to the varying conditions in which they have to live. Generally those species are the strongest and most abiding that can thrive in the widest range of climate and of food, and of all the races of men they are the

mightiest and most noble who are, or by self-adjustment can become, most fit for all the new conditions of existence in which, by various changes, they may be placed. These are they who prosper in great changes of their social state; who, in successive generations, grow stronger by the production of a population so various that some are fitted to each of all the conditions of material and mode of life which they can discover or invent. These are most prosperous in the highest civilization—these whom nature adapts to the products of their own arts."—Sir James Paget, in *Popular Science Monthly* for October.

VENTILATION OF SEWERS.—The following inquiry from Mr. John Walter, M.P., proprietor of the *London Times*, touches on a subject that at this time is considerably agitated in England. We have requested one of our English contributors to send us full particulars of the condition and character of the sewers Mr. Walter refers to. When those are received, we may be able to add something to the reply here made, which is necessarily a general one.

Mr. Walter writes as follows, from St. Paul, Minn.:

"ST. PAUL.

"DEAR SIR: A question to which I desire to call your attention refers to the system now in vogue of ventilating sewers by means of open gratings in the streets and public thoroughfares, a system which I have heard defended as the only effectual means of preventing sewer-gas from finding its way back to the houses. I have, however, noticed in some places, and particularly on the road out of Shanklin in the Isle of Wight, on the way to Sandown, an intolerable stench arising from a sewer so ventilated, and I have heard complaints of a similar nuisance from visitors to Sandown itself. In London itself I have observed that these gratings, in certain states of the atmosphere, give out most offensive smells, which cannot be otherwise than injurious to health. What I should like to know is, whether by a proper system of flushing, such a nuisance can be prevented; and, if so, whether it should not be made compulsory on the sanitary authorities to see that this method is adopted for preventing it?

"Yours faithfully, J. WALTER."

The system of ventilating sewers by perforated covers at frequent intervals, is now widely practised both in Europe and this country, and is generally received by engineers as the best method yet devised. Occasionally trouble may arise, as in the case referred to by Mr. Walter, at Sandown. But we venture to say that the cause may be removed there, as it has been in many other places, by proper care. Without a more intimate knowledge of the circumstances and condition of the Sandown sewers than we now possess, we cannot define the cause except in a general way. We can say this, however, that it must be due to one or both of these two causes, viz.: an inadequate number of vent-holes, or an unnecessarily foul state of the interior of the sewer. If such foulness exists, it may arise from either one or a combination of several causes, such as the following:

*First.*—Improper planning, such as a deficient inclination, or excessive size, or improper form of section, rough materials, irregular gradients, badly devised junctions or branch inlets, angles favoring deposit, etc.

*Second.*—Poor workmanship, such as rough bricklaying and bad alignment.

*Third.*—Poor materials, either coarse and rough in texture, or perishing and crumbling from premature decay.

*Fourth.*—Want of proper care on the part of those having charge of the administration, such as want of flushing and cleansing, which are needed more frequently in some sewers than in others.

*Fifth.*—Inadequate protection at inlets to guard against the introduction of garbage or offal in solid form, or solid matter, which would favor the accumulation of filth, such as sticks, stones, gravel, silt, etc.

In short, if sewers are properly planned, well-constructed, and carefully looked after, the perforation of manhole covers for purposes of ventilation is not likely to lead to trouble, and such trouble, when it occurs, is generally a symptom of something wrong in one or more of the above particulars.—*Sanitary Engineer* of New York.

GULF-WEED IN EPILEPSY AND OBESITY.—Gulf-weed, in doses of gr. ij. of powdered extract every two hours, has been successfully used by Dr. M. Milton in a case of epilepsy, combined with, and as he thought, dependent on obesity.

The gulf-weed is especially useful in the treatment of obesity. Combined with a milk diet and diminution in salted and solid food, it acts very rapidly in reducing flesh without weakening the patient. Gulf-weed is entirely distinct from fucus vesiculosus.—*Maryland Medical Journal.*

LARGE DOSES OF MORPHINE IN PUERPERAL ECLAMPSIA AFTER CONFINEMENT.—Dr. James S. Cooley, of Luzerne, Warren Co., N. Y., sends us a report of the following case:

"Mrs. G——, primipara, aged about twenty-two years, was delivered of male twins at 9 A.M. of October 11th. She was attended by a local practitioner, who told me that the labor was perfectly natural, and lasting about six hours. Some time after noon of the same day, the patient complained of headache, which was not severe enough to cause any apprehension. About 11 P.M., however, fourteen hours after her labor terminated, the patient was seized with convulsions, and her physician was sent for in haste. Deeming the case a serious one, a second physician was summoned from a neighboring town, who arrived about 3 A.M. of October 12th. What treatment was adopted I do not know, but the convulsions continued during most of the day, October 12th, and the case was considered hopeless by both physicians.

"When I reached the house, at 6 P.M. of October 12th, the patient had just passed through the eighteenth convulsion, and I found her lying upon her back, rolling her head from side to side, twisting her body, her face and fingers slightly cyanosed, and wholly unconscious. The pupils were widely dilated, and her pulse 144. As soon as possible I gave, hypodermically, one-third of a grain of morphia, and administered per orem ten grains of chloral and twenty grains of bromide of potash. At 7 P.M. her pulse had fallen to 130. At 8 P.M. the chloral and bromide were repeated. At 8.15 P.M. she had her nineteenth and last convulsion, lasting about three minutes. I immediately gave one-fourth of a grain of morphia hypodermically. At 9 P.M. her pulse had fallen to 102. During the night five grains of chloral and ten grains of bromide of potash were given every hour. At 11.15 P.M., there being some indications of a return of the convulsions, one-third of a grain of morphia was given in the same manner as before, and at 9.15 A.M. of October 13th, just be-

fore leaving to visit other patients, I gave her one-fourth of a grain more.

"At 3 P.M. of October 13th I returned, and found some improvement in my patient's condition. Her pulse had lowered to 92, and there were no symptoms of an overdose of morphia, excepting a very profuse perspiration, and respiration being but fourteen to the minute. Her attendants insisted that she had voided her urine involuntarily, and in considerable quantity; but, the bladder seeming full, I introduced the catheter and drew off nearly three pints of urine. An examination per vaginam revealed nothing abnormal.

"At 9 A.M., October 14th, my patient began to show signs of returning consciousness, and recognized her friends. Mental processes were very slow, however, and she was disposed to talk but little. October 15th the milk fever came on, and the breasts seemed quite painful. Toward afternoon the patient was very restless, and conceiving the idea that she must die, called her friends about her and gave them her farewell messages. As a result of these circumstances, she became exceedingly nervous; her pulse flew up to 140 again, and her husband's apprehensions were so much awakened that I was sent for in haste. I sent all from the room, enjoined perfect quiet, and in a few moments my patient fell asleep, slept for some time, and awoke perfectly conscious, with no recollection of anything that had taken place subsequent to her labor. Her lochia, which had stopped for forty-eight hours, returned, her breasts became less painful, and thenceforward her recovery was as rapid as could be desired.

"Were I to have a similar case again, I would not hesitate to use the morphia in large doses, for I believe that one-half a grain or a grain on my first arrival would have saved my patient her last convulsion. I would ask the readers of THE RECORD to report their experience in the use of morphia in such cases."

DEATH OF TWO MEDICAL STUDENTS.—The students of the College of Physicians and Surgeons, who recently lost two of their fellow-students by death, George M. Fuller and Charles L. Breen, have passed suitable resolutions expressing their high appreciation of the deceased.

A PRACTICAL METHOD FOR PREVENTING THE SPREAD OF INFECTIOUS DISEASES IN HOUSEHOLDS.—Dr. Malcolm McLean, of this city, sends us the following practical method of preventing the spread of infectious diseases:

"For ten years past I have been experimenting with a simple method of quarantining cases of small-pox, scarlatina, diphtheria, measles, etc., and, as I have been able to get positively valuable results, I take the liberty of presenting it, simple as it is, to the profession for their trial. My plan consists simply in *filtering the atmosphere* which surrounds the patient through a carbolized or otherwise disinfectant sheet of muslin, which is closely tacked over the door-frames of the room in which the patient lies. I close all unnecessary doorways by tacking the sheet *all about* the frame, bottom, top, and sides. The *one* door which is needed for ingress and egress I protect by tacking a similar sheet across the top, down the whole side of the hinge side of the doorway, and down the lock side as far as within five feet of the floor. This filtering-sheet is made long enough to hang closely to the frame, and fall in folds upon the floor, where it is not tacked. By keeping such a sheet sprinkled with a solution of carbolic acid—I generally use Squibb's two per cent. solution—or other reliable disinfectant fluid, all, or nearly all, of the air of the infected room is *filtered* through a tissue which seems to *destroy the infection in its passage.* Moreover, the filter acts by moral effect, for it happens that intruders into the sick-room are very rare; and thus a great danger and prolific source of the disease is practically removed. Indeed, the whole household are reminded that there is a something within to be avoided. Of course the nurse must use care not to allow anything to be removed from the room in a condition to carry the poison without.

"After a fair trial of many years, assisted also by several of my brother practitioners (among whom I may mention Drs. I. B. Read, F. A. Smith, and J. A. Walther), I am able to state that, in a list of about fifty cases carefully observed, I have succeeded, in all but *two*, in confining the infection or contagion to the patient first attacked. In the two instances of failure I had abundant evidence that the quarantine was grossly neglected.

"Dr. F. A. Smith had the kindness to report to me a most interesting test of this method which occurred in his own hands last winter. In an institution which the doctor was attending professionally a case of well-marked scarlatina broke out in the midst of scores of young children who slept in the ward. The case was removed to the nurse's room, and there quarantined by means of the filter, according to the method described above. The consequence was that not another case occurred in the institution. On other occasions, where the usual modes of isolation were alone adopted, the same institution had been swept with epidemic force. Dr. Smith expressed to me his belief, founded on experience, that, without the method mentioned in the case reported, he would have had scores of cases on his hands in a fortnight.

"The simplest way to sprinkle the sheet is to pour the disinfectant solution in a flat dish, and dip a hair-brush in it, and with this throw the liquid over the filter. There are three positive points gained by using this method: 1st. The air of the sick-room is not mixed with the air in the rest of the house. 2d. Visitors are much less likely to visit the sick-room. 3d. The air of the sick-room is kept more easily at an even temperature.

"In all of my cases I have found it unnecessary to close the ordinary door, the filtering-sheet taking its place."

THE DIAGNOSTIC IMPORTANCE OF ODORS.—In a recent lecture Dr. Julius Althaus, of London, says:

"I must say a few words on the *diagnostic importance* of certain smells in the sick-room, which was formerly much insisted upon; indeed, whole treatises have been written on the recognition of disease by sniffing. Dr. Heim, who was the popular physician of the day at Berlin, some fifty years ago, recognized measles, scarlet fever, and small-pox by their peculiar smell on first entering a house, and before having seen the patient. Mr. Bernard, of Upton Park, has recently recorded in the *Lancet* two cases of small-pox in which the patients themselves perceived a dreadful smell, apparently just at the moment of being exposed to contagion; and one of them, when suffering from the eruption, said that his perspiration had the same smell as that which made him sick before. When attending Skoda's clinique in Vienna, twenty-five years ago, I noticed that this celebrated teacher was in the habit of sniffing when

approaching the bedside of patients suffering from the last stages of pneumonia, phthisis, typhoid fever, etc., and he would give a bad prognosis when he perceived what he called the 'cadaverous smell.' Mr. Crompton, of Birmingham, has noticed a peculiar earthy smell from the body a week or a fortnight before death, which, he says, has never deceived him —an appropriate illustration of the saying, 'Earth to earth.' Dr. Begbie distinguished typhus and typhoid fevers by the sanguineous (others call it 'mousy') smell of the former. Prof. Parkes has noticed a peculiar odor in the skin of cholera patients. A pungent smell in the chamber of a lying-in woman shows that lacteal secretion is well established, while an ammoniacal smell has been said to indicate the approach of puerperal fever. Many women emit a peculiar odor while menstruating, which resembles a mixture of blood and chloroform, and this is believed to arise, not so much from the discharge, as from the more pungent character of the sweat secreted in the axillæ. [At a meeting of the Neurological Society in this city, some time ago, the fact was stated that during intercourse women, in some cases, emitted a peculiar odor from the breath.] Persons of costive habit have a fecal smell; and this is also often noticed in hypochondriacs and lunatics. In uræmia, whether owing to kidney disease or to severe retention of the urine, a urinous odor is emitted by the body, and the presence of pus in some part of the body has been recognized by a peculiar warm, milky smell of the patient.

"Apart from the odor of the sick-room and the body generally, the smell of the sputa, urine, fæces, sweat, ulcers, etc., was carefully noted by the older practitioners and utilized for prognosis and treatment. Unquestionably there was much that was fanciful in such ideas; but, occupied as we are at present with the study of more precise and definite symptoms, we have, perhaps, gone to the other extreme in neglecting such signs altogether. Everybody has his own special odor, and this varies according to the circumstances of life, the food taken, and the state of health in which he happens to be. That it should be altered in disease, and that special diseases should have special odors, is only what one would expect; yet the increase of cleanliness and ventilation has, no doubt, done away with a large variety of smells which formerly used to assail the nostrils of the physician."

Treatment of Syphilis by Hypodermic Injection.—Dr. Martineau has published the result of a large number of cases of syphilis treated by a new method. This consists in the hypodermic injection of the following mixture:

| | | | |
|---|---|---|---|
| ℞. | Powdered peptone..... | grammes | 9 |
| | Ammon. chlorid..... | " | 9 |
| | Hydrarg. bichlorid..... | " | 6 |
| These are dissolved in | | | |
| | Glycerin..... | " | 72 |
| | Aqua..... | " | 24 |

This solution is of such strength that an ordinary French hypodermic holds 10 milligrammes (gr. ⅙) of bichloride of mercury.

This solution is injected subcutaneously, the dose employed varying from gr. $\frac{1}{18}$ to gr. $\frac{1}{4}$ of the mercury. Three hundred and seventy-two patients were treated with three thousand eight hundred and thirty-eight injections, and no abscess or slough ever resulted. No stomatitis or salivation is caused by this method, although very large doses are at times used. The rapidity of its effects is said to be marvellous.

Porro's Operation in England.—Mr. Spencer Wells recently performed a combination of Freund's and Porro's operations for the first time in England. The patient was a woman, aged thirty-seven, between five and six months in pregnancy, and suffering from epithelioma of the cervix. Very little blood was lost, and the woman was doing well six days later.

The State Charities Aid Association on Bellevue Hospital.—In the recent annual report of this association, the Committee on Hospitals says that it had discussed many questions relating to hospital building and management, having also distributed its publications throughout this and other States. In regard to building open-air pavilions for the sick, the committee condemned the practice of placing them near old buildings, such as those of Bellevue Hospital, in which the filth of years had been allowed to collect in floors and walls. The common practice of having the same physicians and attendants for both the old hospitals and the pavilions was also criticised by the committee.

Is Anteflexion of the Uterus a Cause of Dysmenorrhœa?—At a meeting of the London Obstetrical Society, October 5th, Dr. Herman read a paper on the above subject. On reading it, one may well ask whether there is anything certain in gynecology, for the author makes an elaborate and well-sustained argument against the prevalent view that anteflexion is a cause of dysmenorrhœa.

Few persons educated in New York have not heard the pathology of obstructive dysmenorrhœa graphically described, and the neck of the uterus compared to a gutta-percha tube, which is obstructed when bent at an angle. The illustration is simple, and at first thought convincing. The purport of Dr. Herman's argument against this view is as follows: 1st. There is no anatomical evidence that anteflexion causes any hinderance to the escape of menstrual fluid. 2d. There is reason to think that anteflexion is present in nearly half of all women who have not borne children. 3d. Therefore it is to be expected that anteflexion and dysmenorrhœa would frequently coincide. 4th. Dysmenorrhœa is, practically, as common when the uterus is straight as when it is anteflexed. 5th. Painless menstruation is, practically, as common when the uterus is anteflexed as when it is not. 6th. When dysmenorrhœa and flexion go together, the severity of the pain bears no relation to the degree of the bending. 7th. Dysmenorrhœa, associated with anteflexion, is frequently cured without straightening the uterus. 8th. There is no evidence that straightening the uterus invariably, or even frequently, removes dysmenorrhœa which is associated with anteflexion, and in which other methods of cure have been ineffectual. 9th. These facts show that the relation between anteflexion and dysmenorrhœa is not one of cause and effect, but of coincidence.

The paper of Dr. Herman was highly commended by the President of the Society, Dr. J. Matthews Duncan.

T. D. Fitch, Chicago, Ill.—The many friends of Dr. T. D. Fitch, of Chicago, will be glad to learn that his health has so far improved that he has announced himself as prepared to resume his practice. He has been more or less an invalid for over a year.

# Original Communications.

## ON ACIDUM BORACICUM AND CALENDULA OFFICINALIS, AND THEIR USES IN AURAL DISEASE.[1]

By SAMUEL SEXTON, M.D.,
NEW YORK.

In introducing these two remedies in their combined form for the treatment of aural diseases, I shall first give a separate account of the two drugs, and then present such suggestions for their employment as my own experience with them seems to warrant.

### ACIDUM BORACICUM,[2]

or Orthoboric acid, $B(OH)_3$, is formed by the union of the oxide of boron with water. This compound was first obtained by Homberg (1702), and may be prepared by adding hydrochloric acid to a hot solution of borax. The presence of this compound was observed in the water of the lagoons of Monte Rondo, in Tuscany, in the year 1774, by Höfer, a Florentine apothecary, and in 1815 an attempt was made to manufacture it from this source; it was not until 1828, however, that boric acid was thus successfully obtained. These lagoons now produce about three thousand pounds (1,400 kilos.) of boric acid daily. The commercial acid contains about twenty-five per cent. of foreign matter, which is separated by recrystallization from hot water. It is supposed by Wöhler and Deville[3] that boric acid as it occurs in the earth is derived from the decomposition of a nitride of boron. Boron is one of the elements which can combine directly with nitrogen, and the compound thus formed is decomposed by the steam of the lagoons into boric acid and ammonia. (Ammoniacal salts and sulphide of ammonium occur together with boric acid in the earth.) Boric acid is now found in various parts of the globe, and large quantities are obtained from the borax lake in California.

Boric acid crystallizes in shining, six-sided laminæ, unctuous to the touch, and belonging to the triclinic system. Its specific gravity is 1.4357 at 15° (Stolba). It is more soluble in hot than cold water; one part of boric acid requiring about six parts of water at 62° F., and about three parts of water at 100° F. It is easily soluble in alcohol, but insoluble in ether. It is mildly acid. This drug has been but little used in medicine as an internal remedy. Homberg, who gave it the name of *sedative salt*, claimed for it strong sedative powers, and, says Cullen,[4] "upon such an authority it was introduced into practice; and such is the favor of a new medicine, and such are the excuses so readily found for its failure, that it soon came to be much employed in France; and Mr. Geoffroy having found a cheaper method of preparing it, the government ordered, at their expense, that it should be furnished to all the medicine chests of the army and navy." After a thorough trial, the drug was abandoned as a sedative, and Cullen says: "that, even in large doses, this salt has no effect on the human body."

Boric acid is said to be destructive to the lower forms of animal life; thus cockroaches will not remain in the vicinity where it has been strewn, and it is believed to be inimical to bacteria. Within the past ten years, I am informed, it has been extensively employed for the preservation of fresh meats by shippers to foreign countries; meat which has been treated with a strong solution of the boric acid will not, it is said, undergo decomposition readily, and its contamination by flies, etc., is also thus prevented. During the Franco-Prussian war its antiseptic qualities were tested, it is said, with a view to its adoption for the preservation of the meat supplied to the army.

Toxic effects from the use of boric acid have been recently reported.[5] Mododowski, of Moscow, relates two cases in which the use of the drug was followed by fatal results: one, when a patient was tapped for a pleuritic exudation, and the cavity afterward cleansed by injections containing a five per cent. solution of the acid, some of which was allowed to remain; and another case, where a lumbar abscess was similarly injected. Nausea soon followed in both cases, with incessant vomiting and hiccup. General erythema occurred, first showing itself on the face. The temperature at first increased, and then sunk to 36° C. "The pulse became filiform, and cardiac paralysis supervened, with symptoms of utter exhaustion. The autopsy of the second patient exhibited punctated ecchymoses upon the anterior wall of the right ventricle, otherwise nothing remarkable. The mind of the patients was at no time clouded. These cases appear to show that probably the antiseptic action of a remedy may depend on properties at times poisonous, but further investigation is needed, as these two cases seem to be very impure."

The present writer has freely injected a saturated aqueous solution of boric acid through a small perforation of the drum-head into the middle ear repeatedly, without any unfavorable results.

Boric acid has been used in aural diseases for some years past, either instilled into the ear in solution, or blown in as a powder. It is not readily pulverable, requiring trituration for several hours before being reduced to an impalpable state.

### CALENDULA.

Calendula is the garden marigold of the English, the souci des jardins of the French, the ringelkraut or ringelblumen of the Germans, and the calendula officinalis of Linnæus. It belongs to the natural order compositæ, and several species are known. It is a native of Southern Europe and the Levant, and is well known throughout the United States and other countries as a garden plant, not only on account of the ornate character of its blossoms, but in many places also for its medicinal qualities. With us, and in England, it has not been so much used as a remedy as in France and Germany. According to Neale's[6] "Digest," which covers a period of twenty years of British medical literature up to 1877, no mention whatever is made of calendula. The only attempt to introduce it here in regular practice that I am aware of, was made some twelve years ago by Dr. Livezy,[7] of Philadelphia, who recommended it to be used in incised and lacerated wounds, and in contusions. It has been held in high repute, I am informed, in the domestic practice of New England, where it has been employed for a long time in certain forms of singultus.

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1 Read before the Materia Medica Society, November 26, 1881.
2 Vide Nat. Dis., Philadelphia, 1879; and Treatise on Chemistry, vol. i.: Roscoe and Scharlemmer. New York: Appleton & Co. 1879.
3 Ann. Chem. und Phar., lxxiv., 72, and cv., 71.
4 Materia Medica, p. 340: William Cullen. Edinburgh, 1789.
5 Chicago Med. Rev., November, 1881.
6 The Medical Digest. London, 1877.
7 Med. and Surg. Rep., vol. xix., p. 85, 1868.

Graumuller[8] says that formerly this plant was held in high esteem, and that the distilled water was used in inflammation of the eye, the fresh leaves for the hardened border of ulcers.

We learn from Strumpf[9] that the old physicians praised calendula as a cardiac tonic, emmenagogue, and diaphoretic, that, according to Tournefort, the leaves, flowers, and seeds can be used as a sort of solvent in stoppages, and in jaundice, scrofula, and difficult menstruation. The flowers were considered as a great remedy against malign diseases, especially the pest, in the form of their juice, or with vinegar poured over them. Marcellus Cumanus, Rondelet, Minderer, and Welch employed this remedy, and they likewise combined it with acetic acid as a preventative against headache. Matthiolus praised the plant as a remedy for cancer soon after Westring, who became acquainted with it in Sweden as a household remedy, brought it into general notice. Strumpf also states that through the activity of the fresh leaves, it has been sought to remove the callosed skin from the soles of the feet, the induration of tumors, or swellings and warts. The *unguentum calendulæ ex herba recenti* was considered of great service in excoriated nipples.

Murray[10] states that the recent leaves are more efficacious than the flowers; he found the former useful in removing corns and callosities of the feet, and the hard margins of ulcers when applied thereon. Internally, Murray says it was regarded as a sudorific. Hufeland[11] used calendula in ulcerated mammary cancer, both internally and externally, where it was found to diminish pain and secretion, but not to bring about healing.

Pitschaft[12] recommended that for scirrhus, the unguentum calendulæ of the Wurtemberg Pharmacopœia be employed.

In Germany, calendula once enjoyed a wide reputation; the herb itself, and the flowers, were used according to the pharmacopœias of Baden, Saxony, Schleswig-Holstein, and Hamburg. The following account of the drug from Strumpf is so complete, that I have made an almost entire transcript from his work. He says: "The endeavor to bring this seemingly powerful remedy into the confidence of the profession has never been particularly fortunate, probably because it was brought forward with too great expectations. Its disagreeable, almost narcotic, balsamic-resinous smell, as well as its salty-bitter and astringent or harsh taste—qualities which characterize the fresh leaves and flowers, particularly the more acrid calices of the flowers—lead to the opinion that it has more or less prominent healing powers. The chemical analysis, however, does not confirm these expectations, although experience proves it to be tolerably diaphoretic, a mild laxative, and in some degree strengthening to the circulation of the abdominal vessels." G. H. Stoltcze,[13] of Halle, found in the leaves gathered in May, bitter extractive stuff, only a part of which dissolved readily, the rest with difficulty; a green-plant wax (myricin), albumen, gum, calendulin, mucilage, fibre; malic acid, together with the malate of lime; muriate and nitrate of potash, besides water.

Calendulin, a peculiar substance like gluten, forms a yellowish white transparent mass of firm consistency; is without taste or smell; insoluble in water, but with it swells up into a jelly. When it is combined with the other extractives it dissolves in water, and imparts to it the property of becoming gelatinous when cold. It is readily soluble in alcohol, in caustic, in hydrated alkalies, and in strong acetic acid; insoluble in ether and the ethereal oils. It undergoes a chemical change with the oxides of iron and with tannic acid.

The extract of calendula is prescribed in doses of from four to thirty grains, and even more, two to four times a day. It is employed in the form of pills and mixtures; externally, a solution is used for saturating bandages, and, when combined with lard, as a salve. The bruised flowers are given in doses of one or two scruples, in powders or pills. The fresh or dried flowers, and also the plant itself, in infusion or decoction, are given internally, and they are also employed for injections, for bathing, and for bandaging—with fresh butter they are made into a salve. The *liquor florum calendulæ* is made from the flowers which have been thrown fresh, without being bruised, into thin flasks holding four to eight ounces, carefully corked, and, during the warm season, allowed to hang in the open air on the limbs of trees in such a way that they are exposed to the sun as much as possible. After some time a fluid separates itself, which must be poured off and preserved, tightly corked. According to experiments reported by Apothecary Stickel, of Jena, in 1836, the fluid that came from the flowers treated in this manner had a slightly acid reaction; later, the acidity increased and the fluid had a disagreeable smell, an unpleasant taste, and appeared cloudy. After eight weeks, about six ounces (German) of juice had separated from one and one-eighth pound of the flowers. The process of fermentation still continued, and its surface was constantly covered with mould; it was, therefore, not yet ready for use. After the mould had ceased to form, the fluid underneath showed no further changes; it was then dark yellow, had a mild, balsamic smell, somewhat penetrating, a sharp spicy taste, an acid reaction, with a specific gravity of 1009. In time, a mealy precipitate appeared. On distillation, an ethereal oil, together with acetic acid, was produced. The residue contained a soft resin, extractive, albumen, gum, mucilage, fibre, a great deal of chloride of potash, a little phosphate and malate of lime, but no calendulin.

The recommendations of calendula in cancerous troubles are received with some grains of allowance by Strumpf, who says that they are for the most part so nullified by the use of other remedies, or rest in other cases on such uncertain observations that they do not withstand the slightest criticism. Westring[14] thus exhibited calendula in cases of cancer of the breast and uterus with rennet (Kalberkroff), opium, chloride of gold, and charcoal. Rust exhibited it in cancerous tumors with oxide of iron, with the chloride of mercury, with sulphuretted antimony, conium, and cherry-laurel water. In the Kottbus's case of scirrhus of the breast, described by Rudolph,[15] Strumpf expresses doubts as regards the truth of the diagnosis, for the swelling of the tumor described there was soft and painless, and, besides this, he used internally the carbonate of iron, and externally the acetate of iron. Schneider's accounts

[8] Handbuch der Pharmacentisch medicinischen Botanik., iv., 437: Graumuller. Eisenberg, 1817.

[9] Systematisches Handbuch der Arzneimittellehre von Dr. Ferdin. Ludw. Strumpf. Bund ii., 316, 317. Berlin, 1855.

[10] Apparatus Medicaminum. i., 262: Andreæ Murray. Gœtingæ, 1793.

[11] Hufl. J., xliv., 4, 103, 1817.

[12] Ibid., lxxv., 1832.

[13] Berl. Jahrb., xxi., 282-305, 1820.

[14] Erfahrungen üb. die Heilung d. Krebsgeschwüre, a. d. Schwe von Sprengel. Halle, 1817.

[15] Hufl. J., lviii., 1, 119, 1824.

of cases are so general, and the descriptions are so superficial, repeating themselves frequently after so many different remedies, that they lose all credit. Fehr has found the plant of great value in all cases of scirrhus, giving from two to six drachms of the extract within twenty-four hours. Stein, of Weinheim, found it only useful in cancerous affections of the skin, using the decoction of the fresh calendula, with milk or water, by the cupful, or the juice of the plant in an aromatic water or in pills, together with bathing the parts with the decoction, bandaging, and the application of the salve—these allayed the itching and removed the smell. The salve caused some burning, which afterward disappeared. It must not be forgotten that Seibold and others looked for similar results in vain.

Ockel[16] praises calendula in hypertrophy of the womb; he gave half an ounce of the extract, with as much Glauber salts, in six ounces of water—a tablespoonful four times a day. Muhrbeck,[17] of Demmin, used the extract (four grains given five times a day) with good results in chronic vomiting, and Carter used it in like manner with similar results. De Camp,[18] of Lauenburg, administered, with advantage, four grains every two hours in a case of spasm of the stomach, attended with such excessive irritability that every remedy was immediately rejected. Schneider,[19] of Fulda, praises his liquor calendulas as an excellent remedy in stopping hemorrhage and healing fresh wounds.

If the profession in this country and in Great Britain have given calendula but little attention during the past quarter of a century, it has not been the fault of homœopathic writers, to whom, I regret to say, we are indebted for most of the recent literature pertaining to this valuable drug. Hughes,[20] one of the most prominent of that school, states that this plant owes its place in their materia medica to its power as a *vulnerary*, and that it is rarely given internally. It is recommended as having "a most beneficial influence over wounds, especially incised wounds, promoting union by first intention, or, where that is impossible, favorable cicatrization with the least possible amount of suppuration."

"The United States Dispensatory," twelfth edition, 1865, says: "Calendula is at present very seldom, if ever, used in regular practice, but it was formerly much employed in medicine. It was thought to be anti-spasmodic, sudorific, deobstruent, and emmenagogue, and was given in low forms of fever, scrofula, jaundice, amenorrhœa, etc. Both the leaves and flowers were used, but the latter were preferred, and were usually administered in the recent state in the form of tea."

"The National Dispensatory of the United States," 1879, gives a more complete account of the drug than the authority above cited. It also refers to its former employment in medicine, both internally and externally, and states that a saturated tincture of the flowers is said to promote the cure of contusions, wounds, and simple ulcers.

In France, calendula would seem to be employed to some extent in regular medicine at the present time. Cazin,[21] in his treatise, says of calendula: "In France it is cultivated in the gardens, and grows naturally in the southern parts of the country. All of the plant is used in medicine. The flowers are gathered during the entire summer, and the plant as long as the season remains pleasant. In drying, the plant becomes extremely light and fragile, and loses its fragrance; nevertheless, on being crushed by the fingers, a slightly aromatic and not disagreeable odor is perceptible, and it has a slightly bitter taste when chewed." Although the plant is found in commerce in the dried state, Cazin recommends the use of it only when fresh, as the drying process deprives it of nearly all its virtues. The flowers are sometimes used to adulterate saffron, and it is also employed as a coloring matter for butter. The plant, which is a native of the South of Europe, has been successfully cultivated everywhere.

Peyrilhe regards it as slightly narcotic. He has employed it in amenorrhœa, hysteria, chlorosis, jaundice, chronic enlargements of the abdominal viscera, scrofula, and intermittent fevers. Cazin has seen a decoction made from the fresh leaves of the plant and wild hops used with success in scrofulous affections. The patient at the same time took daily, two hours before breakfast, 120 to 180 grammes of a mixture consisting of equal parts of the juice of the plant and white wine.

Muhsbeck[22] is cited by Cazin as having used, with satisfactory results, an extract of the plant in doses of twenty centigrammes, given five times a day, in a case of chronic vomiting, of four months standing, in a woman, twenty-one years of age. He also used the drug successfully in other cases of chronic vomiting, and in one of them an ulcer of the womb was thus cured at the same time. Carter[23] also employed calendula with good results in chronic vomiting. The plant has been also used in the treatment of cancer,[24] and the extract, given in doses of fifteen centigrammes, every three hours, has been found useful in cases of pyrosis accompanied by vomiting.[25] Cazin has seen anasarca, following prolonged intermittent fever, in a woman living in a marshy district, cured in fifteen days by means of a simple infusion of the fresh flowers (twenty grammes to one litre of water) taken in a dose of one litre daily. The remedy produced free diuresis, and a considerable enlargement of the spleen disappeared at the same time. The decoction of the fresh flowers of calendula and of broom (a handful of each in a litre of water) taken in glassful doses every morning, fasting, has been successfully employed in dropsy, jaundice, and engorgement of the abdominal viscera, etc. Vitet finds an infusion of the flowers useful in amenorrhœa, and Schroeder believes it to be as efficacious in these cases as saffron. Cazin informs us that, popularly, a concentrated decoction of calendula and mugwort is employed as a vaginal injection, to bring about delayed menstruation. Chrestien, of Montpellier, introduced an injection of an infusion of calendula for the treatment of the os uteri. Cazin has himself applied with advantage the plant, reduced to a pulp, upon scrofulous ulcers and tumors. He has also found it useful when applied to callous ulcers, the induration becoming manifestly softened by its action. He has, moreover, used it with good results, following a popular practice in chronic ophthalmia, when decided irritation of the conjunctiva did not contraindicate its use. His greatest success, however, in

16 Verm. Abh. a. d. Geb. d. Heilk. von einer Gesellsch. prakt. Aerzte in St. Petersb. 6. Samml. 1842.
17 Hufl. J., lii., 5, 128. 1821.
18 Ebendas, lxvi., 6, 116. 1828.
19 Clarus und Radius Beiträge, iii., 263–267. 1834; Schmidt's Jahrb., v., 78, 1835; Ebendas, ii., 329, 1876; Casper's Wochenschr., S. 238, 1849.
20 A Manual of Pharmaco-dynamics. Fourth edition. London, 1880.
21 Traité Pratique et Raisonné des Plantes Médecinales Indigènes et Acclimatées, par F. J. Cazin, 018–1019. Paris, 1876.
22 Bibliothèque Médicale, t. xxviii., p. 233.
23 Gazette Médicale, Janvier, 1831.
24 Bibliothèque Médical, t. lix., p. 296.
25 Ibid., t. iii., p. 129.

the use of the drug, was in cases of chronic palpebritis and scrofulous ulceration of the eyelids. Hecquet found the fresh leaves of the plant crushed upon warts, caused their disappearance. The flowers macerated in vinegar are, however, more efficacious, says Cazin, for this purpose. Dubois, of Tournai, has witnessed its successful action upon warts, in the case of an infant.

According to Cazin, the souci des champs, or the wild calendula, resembles very much the calendula of the gardens, but does not grow so high as the latter, and its flowers are not so large or so numerous; they are of a lighter yellow color. The blossoms open about nine o'clock in the morning and close about three o'clock. Its properties are similar to the cultivated plant, and the Germans generally employ it for the same purposes.

"If," says Cazin—in concluding the interesting article on calendula from which I have so liberally drawn—"if the ancients have exaggerated the virtues of this plant, the moderns have neglected it too much."

From the foregoing cursory glance at the literature concerning calendula, it is evident that for the past hundred years, or more, it has been regarded as a valuable remedy in disease. As has been seen, its reputation has been a variable one, and, without doubt, it was, in former times, much vaunted as a cancer cure, both within and without the profession, by some whose disinterestedness and intelligence may well be doubted. We must, therefore, in delving into the accumulated literary rubbish respecting the uses and value of this plant, endeavor to separate the wheat from the chaff.

As an internal remedy, calendula does not seem to be employed anywhere at the present time, unless it be in France. Its external use for the past twenty-five or fifty years has been very considerable among homœopathic practitioners, but before their time it enjoyed a great reputation in medicine. We have seen above, that calendula has been employed in almost all departments of surgery with success, and it is a matter for wonder that its healing virtues are not more generally recognized at the present day.

The therapeutical value of the different constituents of calendula has not been ascertained as yet. The glucoside, calendulin, which was a discovery of Geiger, is a neutral body, without taste or smell, and it is probably the cause of the cloudiness which is sometimes present in the tincture. The gummy, mucilaginous properties, which are bland and non-irritating, doubtless afford some mechanical protection to wounds.

It may be well to state in this connection, that it is said (Nat. Disp., 1867) that the flowers of *tagetes erecta* are used as a substitute for calendula; "that most of the *fluid extract of calendula* at present in the market is really obtained from the species named (tagetes erecta) and from tagetes patula. These two plants are indigenous to Mexico and tropical America, but are often cultivated under the names of *French* or *African marigold*." Cazin, in speaking of tagetes patula, says the plant is reputed to possess qualities of a harmful nature, which render its use unsafe, and that, although virtues are claimed for it, they need to be confirmed by experience. It will be well, therefore, for those who hope to obtain the true action of the drug, to select a preparation for use, the purity of which is guaranteed.

Nearly all of the writers that I have consulted on the subject, both ancient and modern, agree on one point, namely, that the fresh plant shall be employed in all cases. In my own experience in the use of the drug, I have always employed the alcoholic tincture from the fresh flowering plant. This tincture is liable to become turbid if exposed to a low temperature, but usually clears up again on being heated.

My attention was first called to the external application of this drug several years ago, by my friend and neighbor, Dr. Piffard, who appears to have used it for a number of years as a dressing after operations, in preference to ordinary carbolic listerism.

### THE EMPLOYMENT OF ACIDUM BORACICUM AND CALENDULA IN THE TREATMENT OF AURAL DISEASES.

My own observation soon convinced me that the action of calendula on granulating and suppurating tissues, and its prevention of suppuration when used upon recent wounds, would render it a valuable remedy in aural diseases, and I, therefore, subjected the drug to a thorough trial in my practice. The results obtained have been entirely satisfactory. The first trial of it was made with a thin salve, prepared by mixing one drachm of the tincture with three of fluid cosmoline, the alcohol being driven slowly off by the use of a water-bath. This preparation, however, was found not to be satisfactory where dryness of the parts was required, and an attempt was afterward made to saturate absorbent cotton-wool with the tincture, and then evaporate off the alcohol; owing to the gummy nature of the residue retained in the wool, even when a comparatively small quantity of the tincture had been employed, the absorbent quality of the wool was in great measure lost, and this preparation was soon abandoned. It now occurred to the writer that pulverized boracic acid could probably be availed of as a vehicle for carrying the calendula into the ear and retaining it there, and, on trial, the plan proved to be entirely successful. This mixture is made of equal parts by weight of tincture calendula and finely powdered boracic acid, as follows: Evaporate the calendula down in a water-bath, at a temperature of about 150° F., to a pasty consistency, and then mix with one-half of the boracic acid: evaporate to dryness, add the other half, and triturate.[26] I do not always employ this preparation in its full strength, but frequently find it sufficiently strong of the calendula when reduced by the addition of more or less pulverized boracic acid.

The local action of both of these remedies on suppurating surfaces, seems to be somewhat similar: they are, perhaps, antiseptic, and it is their nature to promote healing; by means of their action secretions are checked, odors are stopped, and healthy granulation promoted. In some otorrhœas the boracic acid may be employed as a dressing, and will not be found so heating as cotton-wool. In this way a light crust is sometimes formed over ulcerating or secreting surfaces, protecting the former while cicatrization goes on, and preventing the latter, when retained, from macerating the neighboring parts and from undergoing decomposition.

In by far the greater number of cases of suppurative otitis media, I prefer these drugs in combination. Their range of application is thus very extensive; when used in traumatic rupture of the drum-head, and in the myringitis accompanying perforative inflammation of the middle ear, the results have been most gratifying. In ulcerative inflam-

[26] This preparation has been made for me by Messrs. Caswell, Hazard & Co., New York.

mation of the external auditory canal of children, especially in the neglected cases among the poor, where the discharge is sanguineous, purulent, and highly offensive, the mixture is very efficacious.

After the removal of polypi, as soon as the bleeding has been arrested, it is sometimes useful.

The powder may be introduced into the ear through an aural speculum, or it may be blown in with a small insufflator.

In acute cases, the powder should at first be applied with great care, for in some instances it is not well borne at the beginning of the attack.

In nearly all cases, the discharge may be expected to lessen under this treatment; and, when odor is present, its disappearance may be confidently expected to take place very soon.

## REMARKABLE AUTOMATISM IN AN EPILEPTIC.

By EDWARD C. SPITZKA, M.D.,

NEW YORK.

On December 5th, I saw, through the courtesy of Dr. Fuhs, of Williamsburg, a most unusual form of epileptic disturbance. At the time of my visit, the patient had an "access;" he was lying on his back, with his head in almost tetanic extension; the eyes directed to the ceiling, and fixed, without deviation; the pupils in maximal dilatation, so that the iris was reduced to a mere fringe; and the muscles of the larynx in extreme tonic contraction, the cartilages standing out in bold relief, and immovably fixed. The respiration was stertorous, and about twenty-eight per minute. After being in this state ten minutes, his arms underwent a slow tonic contraction, the fingers spreading and the hands crossing; the patient began to tear at his larynx with such force that, if not prevented, there is no doubt that he would have succeeded in tearing its cartilages asunder, if not lacerating the throat altogether. These movements had every element of skilful co-ordination and of purpose, but the patient was absolutely unconscious, and his pupils remained in the same condition as in the first stage. Prevented from tearing his throat, the patient now moved his jaws, regularly opening and shutting them with a loud sound, and with the purpose of biting—he brought his fist up to his mouth, and would have bitten it if not prevented. His expression now became frightful; it was an old story to the relatives and bystanders, and their statement, "that he looked like nothing so much as a wild beast driven to the verge of savage ferocity," describes his appearance better than any technical account could do. While three persons were controlling the rest of his body, his wife held his head, to prevent him from snapping at the hands of those holding his arms down, and the patient *put out his tongue, like a tentacle, to feel where a portion of his wife's hand was available for biting.* These movements were as well coordinated as those of an ant-eater when seeking insects with his tongue for the purpose of drawing them into his mouth, and the purpose, if it can be called such, was as manifest in this man's case.

The "biting spell" passed off in about five minutes, and now the patient began kissing the air with much unction, and with as regular a rhythm as he had previously shut his jaws. Again he had a biting spell, of slighter intensity, and during its progress I made him inhale about thirty drops of amyl nitrite, all of which seemed necessary to insure the physiological effects of that drug. He became more violent for a few seconds, but after the short spell of excitement ensuing he became relaxed, and lay quietly in bed. After a brief period of rest he began singing, in a cracked voice and with thick speech, discordant snatches from various German and English songs. With these he also began to improvise rhymes, and it was noteworthy how quickly the still imperfectly conscious patient formed rhymes and corrected improper ones. As he went on rhyming, I found that his rhymes could be anticipated in many instances. I subjoin a sample from memory:

"Oh with my little fat belly,
I wish I could fill it with jelly;
I wish I could go to court,
Oh boys, let's hold the fort.
Then when we all get through,
Please don't you look so blue;
And then when we are done,
We'll surely have some fun;
And won't we all be good,
That's just what we all should."

And so on for hours, on occasion, with variations. He could not be induced to enter into conversation, nor to take any notice of his surroundings. He was evidently in a post-epileptic mental state, resembling those described by Samt * and Falret, and consciousness was only a little less blurred than during the spasmodic stage. It was observed that, immediately on giving the amyl nitrite, the iris became more visible, the pupil contracting by about one millimetre. The amyl was administered in a second spasmodic attack recurring about half an hour after the first attack. Resolution occurred after its use, but its pupillary change was less decided than on the former occasion.

The patient's cranium had a vicious conformation, and the face was asymmetrical, the lower jaw being "drawn" toward the left. Dr. Fuhs, who had always regarded the psychical and motor phenomena exhibited by this patient as of an epileptic character, informed me that since the 8th of November, when he took charge of the patient, the attacks had gradually increased in severity—about fifty attacks had occurred in the month. At first the patient was rational and conscious in the intervals, but for the last six days he had not returned to complete consciousness, except on one occasion, and then, on the testimony of his relatives, he was somewhat confused. The attacks themselves had changed in character. At first unilateral tonic spasm of the left side occurred, the patient becoming unconscious, and denying all knowledge of the fit on awakening, but complaining of soreness on the affected side. Dr. Fuhs saw him in these attacks, found absolute dilatation of the pupil, and the duration of the fit to be about three minutes. Sometimes generalized spasms set in during the period of unconsciousness. The pulse was never observed to be over 80, nor the respiration to be abnormal, by the doctor. The latter had repeatedly noted the spasms of the larynx, the "biting spells" and spasms of the diaphragm, as well as a soreness and a presumably reflex stiffness (contracture) of the nuchal region. He had also ascertained that the patient had been epileptic six years, and that for one period there had been unconsciousness for two months, the patient resting on his head and heels, and in tetanic rigidity for that period, being treated for "cerebro-spinal meningitis." Dr. F.'s inquiries, however, showed that there had been no grounds for such a diagnosis at any time. The

* Archiv. für Psychiatrie, vi.

mother is asserted to have epileptic attacks, and one brother has similar attacks, on recovering from which he makes indecent assaults on any female he encounters, and has made such on his own mother.

The mental condition of the patient in the interval presents nothing of novel interest; in this respect the history is almost a paraphrase of the histories of pre-epileptic, post-epileptic, and intervallary *moria* described by Falret,* Samt† and myself.‡ The automatic spasms of the character related are exceedingly rare. The only similar case of which I can find a record is one recorded by Kiernan,§ where the laryngeal symptoms and other phenomena presented by an epileptic were such as to resemble hydrophobia. The laity undoubtedly would on first sight have considered the patient whom I saw with Dr. Fuhs a case of hydrophobia. His "biting spell" corresponded to the traditional and, I need not add, incorrect views held of that disease by popular lay and medical writers.

The occurrence of spasms simulating the co-ordinated movements mediated by the oblongata and other lower brain-segments, seems to me to confirm Meynert's hypothesis, that the essential phenomenon of epilepsy is cerebral anæmia, with relative hyperæmia and functional excitation of lower centres.

It may seem a truism to make the special statement, that there are no grounds for assuming a "localized lesion" in such a case. But as such a disclaimer is rendered necessary by the extreme length to which the localization theory is carried by dogmatic teachers, under the heading of "early diagnosis of epilepsy," I will make it. While the present publication of the case is merely provisional, I will briefly state that, aside from the symptoms mentioned, all the somatic and mental signs were those of true epilepsy. The speech of the patient had always been thick, and he had given vent to morbid ideas concerning his wife since she had known him, a period of nearly three years.

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AT THE FUNERAL OF THE DEAD DOCTOR—WHAT IS SOMETIMES HEARD FROM THOSE ATTENDING.—"So G—— is gone! Too bad, isn't it?" "Yes; what was the cause of death?" "Meningitis from overwork." "Specimen obtained?" "Yes; will be presented at Pathological Society. Come and discuss it." "Well, G—— was a good fellow, but did not seem to succeed very well. Did he leave anything?" "Not much; understand his library will be sold for benefit of widow and children." "Indeed! some volumes quite valuable." "When is auction to be (thinking of a set to be completed)?" "Who is to have his place at the hospital?" "Oh, that was arranged when he was sick." "F—— will surely apply." "Too late; place belongs to our college." "Who attended him?" "No one in particular; his medical friends dropped in occasionally." "Was he conscious at any time?" "Yes; promised his skull to me." "Got it?" "No!, Widow objected." "Who writes his obituary?" "The man who has his place." "Speaking of meningitis, I had a patient ——" (commences to recite case in detail; while so doing, listener, interrupting, suggests that the funeral has commenced).

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* Falret: État Mentale des Épileptiques.

† P. Samt: Epileptische Irrseinsformen. Archiv. für Psychiatrie, v., vi.

‡ E. C. Spitzka: Some not Generally Known Forms of Mental Alienation Related to Epilepsy. St. Louis Clinical Record, March, 1880.

§ I. G. Kiernan: Epilepsy, with Symptoms Similar to Hydrophobia. Chicago Medical Review, March 20, 1881.

## A PHENOMENON OF PARTIAL MORPHIA-NARCOTISM.

By HENRY E. JONES, M.D.,

PORTLAND, OREGON.

As a practical clinical fact, I desire to call attention to a symptom of partial morphia-narcotism to which no written reference has yet been made that has come to my knowledge, but which may not be new to the experience of old practitioners. Again and again have patients complained after taking only mild anodyne doses of morphine, by mouth or syringe, of a sensation of numbness of foot or hand, sometimes of one arm, and occasionally of one side of the body. This they compare to the common sensation of the limb being "asleep," though the painful "awakening" is absent.

The side on which pressure during sleep exists, is the one generally complained of. Hence the patient is not a little distressed at times, being convinced that he is experiencing the premonitory warnings or first symptoms of paralysis. When symptoms of brain lesion or monolateral amaurosis are present, the practitioner is not unlikely to be himself deceived, and a victim of hysteria is sure to make convenient use of this ambiguous sensation. Male patients not infrequently make complaint of the same numbness. As to the *rationale* of this phenomenon it is probable that it is of central origin, and results from the cerebral anæmia to which narcotism is attributed. Its occurrence from pressure during sleep may be due to dilatation of the capillaries and venous stasis of vaso-motor origin.

November 22, 1881.

## DISLOCATION OF ACROMIAL END OF CLAVICLE DOWNWARD AND BACKWARD.

By FRANK B. EATON, M.D.,

PORTLAND, OREGON.

In the fourth edition of Hamilton's "Fractures and Dislocations," it is stated that only three well authenticated cases of dislocation of the acromial end of the clavicle downward are on record. I give the history and treatment of the only one I have ever met with, recently under my care.

The patient was a ship's carpenter, about fifty-five years of age, who gave the following history: Several years previously he had sustained a fracture of the right clavicle at the junction of its middle and outer thirds, from which he made a good recovery.

Two months ago, while at sea, he one day strained himself working and lifting, but was certain that he received no blow or violence.

He noticed nothing beyond this until the night following, when he was awakened by a violent pain in the right shoulder, which had never left him, depriving him of rest during the greater part of the night.

At the same time he lost the use of his right arm. He soon noticed that certain motions produced a loud "clicking" sound, plainly audible to himself and those about him; several of his mates testified to having heard this sound. On examination I observed that he carried the right shoulder forward and inward, giving him the appearance of being round-shouldered.

Comparison with the other shoulder showed that the only deformity was a slight prominence over the

acromio-clavicular articulation; there was no redness. Any motion of the arm gave him considerable pain, and it was only with great difficulty that I could carry the right hand to the forehead. Palpitation discovered that the articular surface of the right scapula was unoccupied, a condition much increased by carrying the arm forward and to the left, the relative position of the outer end of the clavicle being downward and backward.

Reduction was readily accomplished, by standing behind the patient, and gently, but forcibly, drawing the shoulder outward and backward. A bread bandage was then applied to the chest, high up, including the scapula, and the arm itself bandaged to the side. The patient expressed himself as much relieved, laxation did not recur, and in two weeks the patient returned to his work aboard ship, gradually recovering the use of his arm.

The etiology in this case is so obscure as to naturally create doubt as to the correctness of the diagnosis, for the three recorded cases were, *as far as ascertained*, "produced only by a force which has acted directly upon the top of the clavicle." No physician who examined this case, however, would for a moment hesitate to give a similar diagnosis. There was no overriding by the acromion process, the ligaments apparently not being all ruptured, as would occur from violence directly applied. The patient's age, history of fracture of clavicle, the carrying of timbers on the shoulder incidental to a carpenter's labors, would account for the stretching and partial rupture of the acromio-clavicular and coraco-clavicular ligaments, and, during the relaxation of sleep, the motion of the vessel might readily produce a dislocation.

November 22, 1881.

## DISORGANIZATION OF THE LUNG, AND EVENTUALLY RUPTURE, WITH FATAL HEMORRHAGE INTO THE PLEURITIC CAVITY.

By J. O. SKINNER,

CAPTAIN AND ASSISTANT SURGEON U. S. ARMY.

I NOTICED by THE RECORD of October 29th, that Dr. Watson presented to the New York Pathological Society a specimen of lung-rupture from violence. This report reminds me of a case which occurred last year (1880) during my administration at this post. I have, therefore, had it copied from my case-book and send it to the MEDICAL RECORD in the hope that some of the points in its clinical and pathological history may be interesting to the profession.

Private Thompson was admitted into Post Hospital, October 5, 1880. The history of his case, as given by himself, was connected with both malarial and syphilitic poisoning. There was no evidence of existing syphilitic trouble other than that cachectic and prematurely aged appearance incident to chronic malaria, syphilis, etc. He complained of a cough, but expectorated little or nothing. His treatment consisted principally of tonics and liberal diet, with an occasional dose of cough mixture. His condition remained the same for several days, when he commenced to improve, and was able in a short time to leave his bed, take moderate exercise, and, apparently, enjoy his food. The history of his case, however, in connection with his cachectic appearance, induced me to recommend his discharge from the service on a certificate of disability, which recommendation was being acted upon at the time of his death. He had just returned, October 14th, to the hospital from the company barracks, whither he had been to make certain inquiries concerning his transportation to San Francisco, and was standing on the hospital porch conversing in a quiet way with a comrade, when he suddenly ceased talking, fell over, gave one or two gasps, and was dead.

*Autopsy*, one hour after death.—Brain firm, but anæmic; light subarachnoid effusion. Heart: some hypertrophy of right ventricle, which was empty; no valvular trouble. Lungs: right lung normal, excepting an unusual number of surface pigmentary deposits; left lung contained near its root and centre a large infarction, and a rent, two inches in length, on its anterior surface, three inches from its internal margin, and immediately anterior to the infarction, with which it communicated. The lung presented a shrivelled, dark, and atrophied appearance, and was completely collapsed. The parenchyma of its upper and external parts seemed intact. The pleural cavity contained a large quantity of fluid and clotted blood of a mahogany color, which was lying around and upon the lung. The cavity, when opened, presented quite a peculiar appearance, as the clot possessed the size and shape of the lung itself, with no pulmonary tissue in sight. The parenchyma was everted through the rent and had, in this locality, that dark, grumous, semi-solid appearance so characteristic of splenic dissolution in typhoid condition. Both the infarction and rupture communicated with the pulmonary artery. The infarction was superior and posterior to the artery, was laminated, and was contained, in part, in what seemed to be a fibrinous sac. It was about three inches in diameter, its layers were concentric, and its central parts presented here and there a grayish or yellowish, dense, inelastic structure. Between its fibrinous sac and its distal peripheral surface, there seemed to be a commencing metamorphosis, possibly puriform liquefaction, in the form of a grayish, viscid, gelatinous material. The strata of this central mass were so arranged as to overlap each other, and seemed to have been deposited at irregular intervals, although there was no fluid material between these layers. They would peel or break off from the mass like the layers taken from a raw onion or a cooked beet. At the periphery of this mass, adjacent to the pulmonary artery, were three or four coagula evidently of more recent deposit and growth. These were almond-shaped, filbert-size, and disconnected from both the artery and infarction proper. The walls of the pulmonary artery at this point, if any existed, could not be distinguished, but what seemed to be their degenerate coats, or the remains of the primary focus of the infarction, was present in the form of a brittle, glistening, though scarcely calcareous, deposit on the proximal (cardiac) surface of the infarction. The aorta also presented this condition. No examination was made for venous thrombosis; kidneys, liver, and spleen not examined.

*Remarks.*—As there appeared no evidence of heart disease, external suppuration, or ulceration, it is reasonable to presume, in connection with the syphilitic history and cachectic appearance on admission of this case, that this infarction originated from embolism consequent upon either a detached portion of degenerated (syphilitic) arterial tunic, or a coagulation of a sluggish circulation with a decrease of heart energy. The marasenic, or atrophic, theory is scarcely tenable, however, in the face of more favorable facilities to be found in the size and site of

extremity arterioles; hence the belief in the specific origin, in the form of arteritis, of this infarction.

With even a very limited or circumscribed zone, originally, of a diminished blood-supply, there exists in "Rokitansky's" theory a ready explanation of the probable increase in the number of diseased districts where occlusion occurs. "Occlusion of the minutest arterial branches of the lung and its capillaries causes collateral hyperæmia, which results in hemorrhage and exudation" (Rokitansky). As this theory is not accepted by Niemeyer, Cohnheim, and others, it is advisable to look for a more logical explanation of the existence of so large an infarction, particularly when it is remembered that there was no evidence in this case, during life, in the form of sudden and extreme dyspnœa, to sustain the belief that the pulmonary artery had been seriously and suddenly, even though partially, obstructed. The more recent and reliable observations of Ludwig, however, confirmed by Cohnheim, have demonstrated that "tension within the artery below the point of constriction is diminished, since a liquid flowing through a narrow tube loses more of its impetus than in flowing through a wide one; but we must infer from this that when an artery is constricted, the contents of the capillaries are lessened, and that the parts they traverse grow paler. The sluggishness of the stream thus produced in the capillaries rather has the effect of allowing the heavy blood-corpuscles to collect and become crowded together. Now, as two or more blood-corpuscles, if brought into contact, are apt to become permanently adherent, the blood itself can form a plug capable of closing the capillaries. Such an occurrence, which converts the capillaries into blood-appendices to the artery, must cause an increase in the internal pressure."

Niemeyer further writes: "Let us add that, in consequence of the pressure, which, after the stoppage, is as severe in the capillaries, with their delicate walls, as in their different vessels, a rupture of the distended walls and an escape of blood ensue. This furnishes a simple and entirely satisfactory explanation of the origin of the hemorrhage, as well as of its limitation to the region supplied by the occluded artery. The utmost that can be advanced against the accuracy of this explanation is, that the artery leading to an infarction not only is narrowed, but entirely closed. Such an objection, however, is untenable. The infarction of an embolus, which we find usually takes place at the bifurcation of an arteriole, very rarely produces absolute closure of it at first, but merely causes in it more or less obstruction. Afterward, when the infarction has become established—an event requiring but little time—fibrine is deposited upon the embolus, and closure of the vessel becomes complete."

An embolus, once arrested, may cause additional ones by detached fragments from the parent one, or, indirectly, by a retardation of the blood-current, in consequence of the resistance or obstruction it creates. An infarction, once established, may also occasion a collateral passive hyperæmia by mechanical influences, and thus assist in the reproductive process. The opinion is, therefore, held that the infarction was the product of several, yet similar, factors, operating, it is true, within a limited area. This process was restricted to these limits at first by the arteriole facilities in this locality, and subsequently extended by the increasing obstruction that distended or ruptured capillaries offered to collateral circulation. Surely, no such occlusion, even though partial, of so large a vessel as the pulmonary artery, or a sudden escape of so much blood as indicated by the proportion of this infarction, would occur during life without some extreme disturbance of the lung or brain functions, in the form of alarming dyspnœa or syncope.

There was no characteristic sputum; in fact, little or no expectoration of any kind occurred during the course of the disease.

The cough, during the few days it lasted, was of a nervous, hollow character, and occurred in paroxysms more marked when talking. The peculiar and unusual avoidance of bronchi by so large an infarction, with its collateral hyperæmia, was evidently remembered by Hertz, in his admirable article on hemorrhages from the lungs, when he writes: "As we have already mentioned, many a case of hemorrhagic infarction wholly escapes diagnosis, and is only a post-mortem discovery; as, for instance, when it is small-sized, or is situated in the interior of the lung, or when the blood cannot be expectorated, owing to occlusion of the bronchial branch connecting with the infarction."

The occasion of these remarks has been, not so much the infarction as its results, *i.e.*, lung-rupture.

No authority, at present accessible, alludes to any such accident, and it is regarded as an unusually rare occurrence. The lung-tissue, through which the stream broke, was doubtless already weakened by a structural change consequent upon a collateral passive hyperæmia, with or without exudation, and must have, eventually, resulted, by gangrene or hemorrhagic infarction, in disorganization.

When, therefore, his diminished strength had so far progressed as to favor, at any moment, a structural disintegration, and the tissues involved failed to receive, in consequence of their surface proximity, that degree of mechanical support previously obtained when confined to the interior of the lung, the solution of continuity occurred with a fatal result. The circumstances attending his last moments were far removed from any unusual physical or mental effort, and the result, if at all, hastened, can only be explained by the assumption that the infarction proper, with the several smaller coagula, in consequence of the erect position, may have, by gravity, increased the obstruction of the artery to that extent as to direct the force of the current toward or against this susceptible tissue.

Wagner remarks on the collateral circulation of parts obstructed by embolism, that "the collateral circulation already established can thereby be interrupted so that primary coagulum gradually grows toward the heart."

It is to be regretted that the specimen was not preserved; but, as "pulmonary apoplexy" is such a common occurrence from hemorrhagic infarction, it was not known at the autopsy that hemorrhage into the pleural cavity, exclusively from infarction, was so rare.

Whipple Barracks, Prescott, Arizona.

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Decrease in the Number of Physicians in Prussia.—According to the official "Medicinal-Kalendar" of Prussia, for the year 1881, there were, during that year, 8,336 physicians and 103 surgeons. In 1880 there were 8,437 physicians and 119 surgeons. The decrease is, therefore, 117. The number of inhabitants of Prussia is 27,251,067, and there is, consequently, only one physician or surgeon to about 3,200 inhabitants.

# Reports of Hospitals.

## WOMAN'S HOSPITAL, NEWARK, N. J.

SERVICE OF EDWARD J. ILL, M.D.

(Reported by THOS. DARLINGTON, M.D., Assistant Surgeon.)

### ATROPHY OF THE UTERUS TREATED BY ELECTRICITY.

MARY B—— (clinical patient), native of the United States, aged twenty. Family history good. Menstruation appeared at the age of fourteen. Was regular for little over a year. She states that from the first she had fourteen or fifteen periods, each one lasting a day or a day and a half, with some slight pain at the beginning of the flow; but that they suddenly stopped, and that now she has not had a period for over four years. Has been somewhat annoyed with the "whites." She complains of weakness, headaches, cold hands and feet, and sometimes sharp pains in back and sides; she also suffers considerably from indigestion, pain after eating, nausea, etc.; has no appetite for food.

The appearance of the patient is that of a girl of fourteen or fifteen years of age. The external organs of generation are well developed. Internally, the vagina is normal, but the cervix is very small and hard, while the uterus measures only about one inch in depth.

For constitutional treatment she was given a powder containing potass. brom., guarana, and quin. sulph.; while locally, electricity (faradic current) was used. One pole was placed in the cervix, while the other was placed sometimes over each ovary or the uterus, and sometimes over the lower part of the sacrum.

From April 11th to about the middle of June, seventeen applications were made.

On June 15th and 16th she menstruated for the first time in four and a half years. From that time until October nothing was seen of her, as she did not come to the clinic.

October 17th.—States that her periods have come regularly every four weeks, and lasted about a day each time. Upon measurement, the depth of the uterus was found to be two and one-fourth inches.

November 14th.—Her head does not trouble her so much; her breasts are somewhat larger, and has noticed this particularly as her dress has become considerably tighter.

At her last period, two weeks ago, the flow lasted two days, and the menstrual discharge was greater than ever before.

### LACERATIONS OF THE CERVIX.

Quite a number of cases have been operated upon for lacerations of the cervix; and all of them, with the exception of one, were attended with success. In this case only one side remained closed after the removal of the sutures, and the attending gastralgia, and other reflex nervous symptoms, persisted after the operation.

The preparatory treatment of most of the patients was the use of the douche twice daily—a gallon of *hot* water being used for that purpose—painting the cervix with tinct. iod. twice a week, puncturing the cysts, if any, with Buttle's spear, and the introduction of a glycerine tampon.

All of the operations were done *without ether*, neither was any opium or other anodyne used, and in no case did the patient complain of pain, nor were there any movements made on their part which would hinder the operator. The only complaints made were the uncomfortable feeling of stretching the parts produced by the speculum (the largest size Sims having been used on each occasion), and the tiresome position in which the patients were placed. Several of them were inclined to be a little hysterical and nervous after the operation, but, besides this, there was no after trouble, as there is after ether; though this is not the only point gained, for it also saves the danger attendant upon giving it, obviates the attendance of an assistant, saves the time used to put the patient under its influence, and also the trouble that operators experience when the patient vomits, it being impossible to continue an operation upon the uterus while this is taking place.

Two of the cases were operated upon near the menstrual period, and in both cases flowing took place while the stitches were in situ; but the results were just as good in these cases as in the others, the only difference in the treatment being that the sutures were left in two or three days longer.

## HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA.

CLINIC OF DR. LOUIS A. DUHRING,

PROFESSOR OF DISEASES OF THE SKIN.

### RECURRENT PEMPHIGOID ERUPTION.

THE patient, a young negress, about twenty years of age, has presented herself at the clinic from time to time for the last five years, being afflicted with a recurrent bullous disease of the skin. The character of the disease here exhibited is rare and of an anomalous form, which may bring it properly under the head of the so-called "pemphigoid eruption." The lesions consist of blebs, varying in size from a pin-point to a goose-egg, the average size being that of a hickory-nut or an English walnut. These blebs run an acute course in from three to six days, becoming distended with a clear fluid, which later becomes cloudy. They occur in different parts of the body, scattered about singly on the face, scalp, arm, neck, mouth, and vagina. In the last two places, after rupture, they might be mistaken for mucous patches. There is nothing peculiar about the blebs, except that they are more irregular in shape than the blebs of true pemphigus. Those on the chest are variously shaped, some being elongate or wedge-shaped; others are oval, especially those on the flexor surface of the forearm. They rupture sooner or later, leaving dark, lasting, pigmented spots.

The history of this case is long and obscure, and hardly necessary for me now to recount. The chief points of interest and importance connected with it are the irregularity of her menstrual function. There is no doubt but that the blebs are dependent upon the latter symptom. Sometimes a year will elapse without the appearance of any blebs. During this time menstruation will be more regular. Then, again, when menstruation is irregular or absent, they appear in numbers. There can be no doubt, therefore, that there is a direct connection between the eruption and menstruation, as, when her menses are irregular, the eruption is more profuse, and *vice versa*. The patient is, moreover, subject to vicarious menstruation, as on several occasions she has had a flow of blood from the ear. This fact in the history of the case is interesting, because by relieving the irregularity of menstruation

we may hope to strike at the cause of the eruption, and thus cure this very annoying cutaneous disease.

LARGE, FLAT PUSTULAR SYPHILODERM.

The patient, a man, about thirty-five years of age, exhibits a marked skin disease with striking lesions. According to his statement, the initial lesion of syphilis was received about four years ago. He first noticed a "small red pimple" on the right side of the penis, and this was later accompanied by a bubo in the left groin. He took medicine, he states, which arrested the process, and no other lesions showed themselves for nearly a year, when mucous patches appeared in the mouth and on the tongue. A year later he suffered with articular rheumatism, affecting the right ankle, shoulder- and elbow-joints. The great toe, also, of the left foot became swollen and violently inflamed.

Five months ago, a large ulcer appeared on the outside of the right elbow. This healed rapidly under internal treatment. After the remedy was discontinued, there soon appeared a new ulcer over the right wrist. This was followed by other lesions, until he had about a dozen on different parts of his body.

The history is one of syphilis, and we naturally relegate the cutaneous eruption to the syphilodermata. On the side of the face, at the angle of the jaw, there is now an ulcer about the size of a large olive, covered with a thick greenish crust. It is sharply defined, and possesses a dark red, somewhat irregular, and indurated border. Looking more closely, we may notice on the upper border a greenish yellow secretion, which soon dries and forms the peculiar stratified oyster-shell crusts. A similar lesion is noticed back of the ear, which presents an excavated, ulcerating surface, with but little crusting. The other ulcers present much the same appearances; they have that characteristic, sharply defined, "punched out" appearance which renders the diagnosis easy. The crusts of these ulcers were formerly called "Rupial crusts," but this term is fast going out of use, the disease being now generally known as the *large, flat pustular syphiloderm.* On the sacro-lumbar region we see a large scar, sharply defined, and looking as though it had been punched out. After six months the lesions which we have considered will, without doubt, ultimately result in such scars. The lesions of this syphiloderma are not very deep, and in this respect they differ from the gummatous syphiloderm. The patient when cured of this eruption will probably consider himself a well man, but he will, in all likelihood, come to us again some years hence, and the lesions will then probably be gummatous. The treatment is mainly constitutional, and consists of full doses, from ten to thirty grains, of the iodide of potassium. Locally, the oleate of mercury, from five per cent. to seven per cent. strength, may be used with benefit.

PAPULO-SQUAMOUS SYPHILODERM.

The patient before us, a man, thirty years of age, presents a well-defined eruption about the thighs, legs, hands, and feet, but which is mostly marked about the palms of the hands. The scalp is free, likewise the back, with the exception of a few disseminated papules on the back of the neck. The lesions on the thighs consist of flat, dark red patches, varying in size from a split-pea to a dime, rounded and irregular in form, slightly raised above the level of the surrounding skin, and covered with scanty yellowish scales. The lesions on the legs and feet have the same general characters.

On the palms of the hands, the eruption is evidently in a chronic condition. According to the statement of the patient, it has existed six months. We notice here variously sized papules covered with a yellowish, hard, or even horny exterior, due to the great proliferation of epithelial cells. Foreign matter has become mingled with it, which makes it present a greenish or blackish color. Here and there are fissures.

Between the second and third fingers of the left hand there is a papule which is eminently characteristic. It is about the size of a large pea, and is of a distinctly coppery color. We notice a similar lesion on the right hand. It is round, sharply defined, the edges being covered with adherent scales, and from the centre is issuing a scanty mucoid discharge.

The lesions over the legs are by no means characteristic, and here the diagnosis is not easy. It might be confounded with psoriasis, and in some cases it is almost impossible to differentiate the disease without going very minutely into the symptoms. Here, however, the copper-colored mucous papule on the finger is quite sufficient to distinguish the disease from psoriasis.

As for treatment, it may be stated that the disease is usually stubborn, both local and constitutional measures being required. I would advise for the internal treatment small doses of the biniodide of mercury, from $\frac{1}{24}$ to $\frac{1}{16}$ of a grain, together with iodide of potassium, from two to five grains, three times daily. Locally, after the dry epithelial scales have been removed, the oleate of mercury, in the strength of ten per cent., may be used twice daily. This is to be kept up for at least three weeks; at the end of that time we may expect marked improvement. The process of recovery is often slow, and we are frequently obliged to increase the strength of the local application to fifteen or twenty per cent.

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REGULARS AND HOMŒOPATHS IN SAME HOSPITAL.—The County Hospital (the large public hospital) in Chicago is to be placed, in part, under the professional control of the homœopaths—at least it has been so voted by the County Commissioners, which is the governing body of the institution. Only a part of the hospital is to be turned over to the homœopathic profession, the remaining portion, it being intended, shall remain under the present medical management.

The arguments that were considered by the Commissioners in taking this step were, that a large portion of the taxes were paid by patrons of homœopathy who desired to have that school represented in the hospital management, and that there was reason to hope that under homœopathic management the expenses of the medical department would be reduced. One of the two rival colleges of homœopathy has recently built a college building directly opposite the hospital.

THE NAUSEA AND VOMITING OF PHTHISIS are often relieved, according to M. Debove, by feeding the patient through a stomach-tube. This method was adopted on the theory that the sight and taste of food disgusted the patient. Seven successful cases are reported where nutrition was improved and all the symptoms were ameliorated. Yet we doubt if the remedy becomes popular.

# Progress of Medical Science.

A New Method of Embalming Bodies and Preserving Tissues. — Dr. Virodtzeff (*Balsamirovanie*, pp. xi., 164, St. Petersburg, 1881) recommends the following preparation as an efficient agent in the embalming of bodies and the preservation of tissues:

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| Thymol | 5 parts. |
| Alcohol | 45 " |
| Glycerine | 2,160 " |
| Water | 1,080 " |

It is cheap, innocuous, free from unpleasant odor, possesses the property of keeping the body soft, elastic, fresh, and life-like, and does not ruin instruments. Thymol is selected as being superior to other antiseptics, and glycerine is added, both on account of its own preservative qualities and to retard the evaporation of the fluid. For the preparation of tissues the same solution is employed. If the cadaver be quite lean, or the tissues very delicate, equal parts of water and glycerine (1,620 of each) are combined with the above quantities of thymol and alcohol. To inject a body, half its weight of the fluid is necessary. A properly embalmed cadaver may be preserved indefinitely under ordinary circumstances, gradually shrinking and mummifying without putrefaction. Specimens are either to be injected with or macerated in this fluid. Maceration must not be too prolonged—the appearance of the specimen should act as a guide. The part, after having been thoroughly cleansed in water, and prepared, may then be exposed for months to the air without losing its consistency, form, and color. Permanent specimens may be enclosed in a hermetically sealed glass vessel containing a little of the same solution. Dr. Peabody has used this preserving fluid, with excellent results, in the New York Hospital Museum.

Some of the Therapeutical Uses of Nitro-Glycerine.—A paper, bearing the above title, was read by Dr. Hammond before the New York Neurological Society, October 4, 1881. "From the action of nitro-glycerine," says the author, "it is to be expected that the drug would be of value in those instances in which it was desirable to stimulate the circulation, and increase the amount of intracranial blood." As the basis of his prescriptions, he employs Boericke & Tafel's preparation, which contains ten parts of nitro-glycerine to ninety of absolute alcohol. This he dilutes still further, by adding to it alcohol to the extent of ninety parts to ten of the drug. One drop of the solution obtained represents one one-hundredth of a drop of nitro-glycerine, with a dose larger than which he never begins the treatment of a case. In the anæmic variety of hemicrania, one drop of the remedy of the above strength is administered. In fifteen minutes, if no benefit has resulted, another drop is given. The author states that he has rarely been compelled to administer a third dose, as improvement generally began with the first, while a second almost invariably completed the cure of the paroxysm. In periodical migraine, the patient should begin to take the solution in doses of a drop, three to four times a day, two or three days before the paroxysm is due, and continue the remedy for an equal period afterward. When an attack, due to indiscretion in diet, emotional disturbance, physical exertion, etc., is threatening, a similar course should be pursued. The author believes there is every reason to think that, eventually, the habit may be permanently overcome by this means. In the treatment of old cases of epilepsy, in which bromides have been exhibited, with only partial effect, he always begins with nitro-glycerine, provided there be no organic cardiac lesions present. The bromides are retained for their permanent influence. In that form of epilepsy known as the *petit-mal*, in which bromides, as a rule, have but little curative action, nitro-glycerine is of particular efficacy. In these cases, one drop of the solution is given three times a day, and the dose is increased one drop every month, until at the end of a year the quantity administered will be twelve drops three times a day. The author's experience has not been extended enough to warrant him to make confident assertions in regard to the permanent curative influence of the nitro-glycerine in epilepsy, but the therapeutical promise is good, especially as regards those forms of the disease in which there is little or no convulsive movement. In the *status epilepticus*, a condition in which the paroxysms succeed one another so rapidly that there is no conscious interval, results have been obtained better even than those following administration of the nitrite of amyl. The headache of anæmic women and anæmic vertigo are also very amenable to treatment by nitro-glycerine. — *Virginia Medical Monthly*, October, 1881.

Indications for the Administration of Digitalis. —In the *Deutsche med. Zeitschrift*, No. 23, 1881, Prof. Leyden states his views in regard to the use of digitalis. He thinks the drug is of advantage in acute febrile diseases, in hæmoptysis and other hemorrhages, and of course in cardiac diseases. As an antipyretic, however, it is not a very safe agent, on account of the danger of sudden collapse. As regards its employment in heart disease, he thinks it difficult to lay down any generally applicable rules. Every case should be judged on its own individual merits. In mitral and aortic affections there is a special indication for its use when there is diminished arterial tension, with dyspnœa and scanty secretion of urine. He finds it best in such cases to give only small doses, one-quarter or one-fifth of a grain daily. If these doses fail, it remains an open question whether or not it be advisable to give more. In hypertrophy and dilatation of the left ventricle, with co-existing pulmonary disturbance, digitalis is a highly uncertain remedy. As a diuretic its action is feeble, succeeding only when the action of the left ventricle is feeble. Leyden prefers the tincture and infusion of digitalis to other preparations of the drug. The best substitute for digitalis he thinks is squills. Both drugs may be given in combination, or, better still, the exhibition of digitalis may be followed by that of squills.

Gastrostomy.—Establishment of a Gastric Fistula in a Case of Stricture of the Œsophagus.— "Given a case of malignant stricture of the œsophagus below the neck," says Dr. Lutz (*Transactions of the Medical Association of the State of Missouri*, 1881), "what course are we to pursue?" After referring to the danger attendant upon the use of bougies, and the inefficacy of rectal alimentation, he considers the results of operations for establishing a gastric fistula. These results, he says, discouraging as they may appear, are, when properly analyzed, really encouraging, for they point out the causes of failure, and how to avoid

them. Magendie demonstrated that animals who have been starved, or ill-fed, cannot, after a certain time, be kept alive, even though their former allowance of food is again given to them, and, furthermore, they will die just as soon as if they had continued to be insufficiently fed, or starved. Here is a clue to the lack of success in the operations mentioned. With few exceptions, the patients had been allowed to become irreparably emaciated, or they themselves had deferred the operation until the power of digestion and absorption was lost. To show how much could be accomplished by an early operation in the way of rendering the patient comfortable, and limiting the influence of the new growth upon the general system, the author cited a case upon which he had operated six months before. The diagnosis was incipient, and probably malignant, stricture of the œsophagus in the lower third. A gastric fistula was established, the man was provided with an obturator and an *external œsophagus* of rubber, and at the time of the reading of the paper (May 17th) was "alive, well-nourished, and as comfortable as could be expected." On June 15th, however, seven months after the operation, the patient's health began to depreciate, the fistula gave him considerable trouble, introduction of the obturator caused him great pain, and he therefore took food but once a day; he died of exhaustion on the 2d of July. No post-mortem was made, the relatives refusing permission.

Leucocythæmia and Hodgkin's Disease.—Dr. Graham, of Toronto, has summarized the leading points of similarity and difference in these two allied diseases. He states: 1st. That the essential features of leucocythæmia are the lymphoid growths, and the leucocytes found in the blood derived from them. 2. That the existence of similar growths is the essential feature of Hodgkin's disease; but in it the leucocytes, for an unexplained reason, do not enter the circulation. 3d. That in both diseases the presence of these deposits or growths interferes with the manufacture of the red corpuscles, anæmia resulting. 4th. That these growths bear a strong resemblance to those of a malignant character, especially the sarcomata. And, lastly, that pernicious anæmia may arise as a consequence of leucocythæmia, or Hodgkin's disease, in the same way that it sometimes results from pregnancy or any other condition that interferes with the proper elaboration of the blood.—*Can. Jour. Med. Science*, November, 1881.

Nature of the Diphtheritic Contagium.—In the spring of 1880, Drs. H. C. Wood and H. F. Formad, under the auspices of the National Board of Health, began a series of experiments upon rabbits with a view of determining the nature of the contagium of diphtheria. The animals were inoculated with diphtheritic membrane taken from the throats of human patients. In the course of these researches, it was determined that there is nothing specific in the production of false membrane in the trachea, and that traumatic pseudo-membrane accurately resembles the diphtheritic, except that micrococci are not quite so abundant in it. The experimenters conclude that the disease produced by the diphtheritic inoculation was really rabbit-diphtheria, because the poison giving rise to it, the symptoms during life, and the post-mortem lesions were identical. In addition to this, the contagiousness of the disease was retained. They accept the experiments of Curtis and Satterthwaite, showing that the infectious character of diphtheria depends upon the solid particles of the membrane; furthermore, their researches lead them to conclude that the micrococci are in close relation with the essential poison of diphtheria, being either the virus itself or the producers of it. The results of culture of these bacteria lead them also to assert that there is no difference between the micrococci of simple sore throat and those of diphtheria, except in activity of reproduction; the two are the same organism, existing under different conditions. Drs. Wood and Formad believe that the vitality under artificial culture is in direct proportion to the malignancy of the case from which the plant is taken. They have succeeded in producing diphtheria by the inoculation of cultured micrococci, but never with those of a generation later than the second. M. Pasteur has indicated that an inert organism may become virulent, and *vice versa*, and in the same way they believe themselves able to prove that the micrococci of the mouth are really identical in species with those of diphtheria. That oxygen may be potent in converting a virulent into a non-virulent organism, they regard as probable, from the effects of exposure of dry membrane. The micrococci of a catarrhal angina or trachitis may, under favorable circumstances, be transformed into micrococci of diphtheria, and a self-generated diphtheria (*i.e.*, endemic) ensue, or external conditions may favor the transformation of inactive into active organisms, and these may lodge in the trachea and also cause diphtheria (*i.e.*, epidemic). In the first instance, the disease may spread by organisms exhaled by the breath. Diphtheria will vary in contagiousness according to the development of the virus—malignant diphtheria will be more contagious than the mild endemic form. The conditions outside of the body which favor the transformation of inactive into active micrococci, and agents destroying these organisms, remain yet to be studied.—*Phila. Med. Times*, October 22, 1881.

On the Nature of Operations in which the Membrana Tympani is Incised.—Dr. Roosa (*Arch. of Otol.*, September, 1881) states that he has abandoned all operations in cases of chronic proliferous (or non-suppurative) inflammation where there probably are adhesions between the ossicles, or between an ossicle and the promontory, together with an absence of mucus or pus in the tympanic cavity. Division of the membrana tympani, insertion of an eyelet, attempts at maintaining a permanent opening by means of incisions, and repeated paracenteses, have convinced the author that these procedures fail to relieve tinnitus aurium, to improve hearing, or to retard the advance of the incurable disease. In cases of accumulation of pus or mucus in the tympanic cavity, especially where the trouble is acute or subacute, paracentesis, *carefully performed*, is a valuable adjunct to other means of cure. The author would not advise it in every instance, as many cases are benefited by means of Politzer's method of inflation, and by proper attention to the throat and nostrils. Redness and bulging of the drum-head may often be remedied by the use of leeches, or by scarification of the membrane (Blake). In incising, Dr. Roosa favors the gentle method. He uses a small needle, and makes an incision just large enough to give exit to pus, blood, or mucus. Incision is often practised too early, and delay might have rendered it unnecessary. It is often too free, and sometimes so deep as to injure the walls of the cavity.

MANAGEMENT OF TEDIOUS LABOR.—In the *Edinburgh Medical Journal* of November, 1881, Dr. S. Hamilton makes some suggestions, which his experience has warranted, in the delivery of breech presentations. The use of the forceps in seizing the buttocks is important. An instrument measuring two and three-fourths inches from blade to blade, and one inch at the tips, failed to give firm hold, and he, therefore, uses a pair of Ziegler's, which have been brought together one-eighth of an inch closer in both directions. Although one finger, or two, hooked in the groin is the safest and most convenient instrument, yet when the nates are high in the pelvis, the traction exerted is not great, and in strong primiparæ requires long and exhausting application. As a safer instrument than the bare hook, the author recommends the handle of the common craniotomy crotchet, over which an india-rubber tube is slipped. A soft surface is thus afforded, and the utility of the crotchet is not interfered with. Dr. Hamilton rejects the use of the bandage, or thick tape, usually recommended in these cases, inasmuch as it is liable to do harm to the parts of the child, and, furthermore, is passed with difficulty when the nates are high in the pelvis. He resorts to an india-rubber tube to *give soft kindliness* to the band and facilitate introduction. A piece of crinoline iron is accordingly given the proper curve; it is then inserted in a small rubber-tube, eighteen inches long, and passed around the groin. Traction can then be employed without fear of doing injury.

PUERPERAL TEMPERATURES.—Dr. A. D. Leith Napier has tabulated some important deductions, as the result of extended observations. They are as follows: Temperature varies in the normal puerperal condition. In certain individuals it may be as low as 97° F., or as high as 99.5° for a week or more, without a bad symptom. The average for the three or four days immediately succeeding parturition is 98.5° to 99°; the subsequent heat is modified by the hour of delivery, but only to a small extent. The healthy puerperal range is 2.5°. No temperature over 99° (unless accounted for by individual nervous susceptibility) is normal after four days. The healthy patient may have an *occasional* night-temperature of 100° or 101° within the first four or five days, but a continuing, or even a morning- or day-record like this requires an explanation. Slight causes, *e.g.*, constipation, retention of urine, etc., give a rise to 99°–100.5°, sometimes more. Retention of clots, or secundines, 99°–101°, or upward; 103° at times. Cases of mastitis are mildly febrile for several days. Metritis (endo- and peri-) gives record of 103.5°, with slow pulse. Peritonitis has a single rigor, and a sudden early temperature of 104° or upward; the pulse is wiry. General peritonitis, if severe, 105.5°–106°. Pelvic cellulitis, oöphoritis, parametritis, etc., have a heat of 101°–102.5°; the pulse is weak and irritable; recurrent rigors mark fresh deposits of pus, and are followed by temporary increased heat, 104.5°. Pyæmia and uterine phlebitis average 103°, perhaps more. Cases in which the veins are affected rapidly reach 104.5°–106°, and end speedily. Pyæmia is frequently late in development—7 to 10 days. Septicæmia varies from 102.5°–107°; the heat is never less, at least for some period of the twenty-hour hours, than 102.5° if the case is properly established; the temperature is liable to variations, but after the normal has been reached, is less so than pyæmia; there is no security from remission until the night-temperature is under 100°; recovery may take place after 106°, but is rare. Mental emotion may show 104°, and even 106°, and we may sometimes have, in addition, symptoms resembling metro-peritonitis; these cases do not persist, and are generally normal in less than forty-eight hours. If the temperature does not rise within ten days from delivery, there is little risk of grave disease, unless from gross imprudence, in exposure to cold, or zymotic infection. Although the temperature is moderately low, 100°–101°, so long as the pulse continues 120, or more, we are not safe from relapse. No anxiety need be felt so long as the temperature is kept under 102°. However fast the pulse, if the temperature continues low, the prognosis is favorable. An evident exception pertains when the temperature is low from collapse. If the temperature is persistent at 102°, or frequently recurs to this point, there must be an abnormal organic condition. Temperature should be observed night and morning for the first seven days, and daily for three to seven days after, more especially if any instrumentation has been required for delivery, or if zymotic or epidemic disease prevails. When an abnormal temperature is discovered, it should be reduced to the normal as early as possible, by one or other agent. It is of the highest moment to bring it down to 100°, and *keep it there*, or lower. "A few exceptional cases of abnormal puerperal febrile conditions," says the author, "cannot be brought under this thermometrical summary; they require individual consideration."—*Edinburgh Medical Journal*, November, 1881.

OSSEOUS LESIONS IN HEMIPLEGIA.—M. Debove has made a few observations, before the Société Médicale des Hôpitaux, on the osseous lesions met with in hemiplegic subjects. As surgeon of the Bicêtre Hospital, he had observed several fractures in paralytic subjects, and he noticed, at the same time, that the fracture was always on the side of the hemiplegia. There was reason to believe that the bones on the affected side had undergone some alteration which rendered them more friable. At the autopsy of a hemiplegic who had fractured the humerus, M. Debove was able to observe that not only had the fractured bone undergone this change, but all the bones of that side were affected. In comparing the two sides, he found that the humerus of the paralyzed side was lighter than that of the other, the medullary canal was larger, and the substance of the shaft less compact. The Haversian canals were much dilated, and the bone was porous. There was evidence of fatty degeneration. These lesions were sufficient to explain the relative frequence of fractures in hemiplegics. M. Debove observed, however, that these fractures united very rapidly.—*Medical Press and Circular*, November 9, 1881.

LINIMENT IN PROLAPSE OF THE UTERUS.—In prolapse of the uterus, M. Cheron, of the St. Lazare Hospital, besides the application of a pessary to keep the organs in position, prescribes the following liniment, in order to ease the neuralgic pain from which many patients suffer: chloroform, ʒ iij., ether, ʒ iv., camphorated spirits, ʒ iij. These frictions on the lumbo-sacral region are attended with the best results. Also, to restore the tone to relaxed ligaments, he gives: bromide of potassium, ʒ iss., tincture of iodine, gtt. xv., tincture of aconite, gtt. xxiv., syrup of tolu, ʒ x. A teaspoonful before each meal.—*Medical Press and Circular*, November 9, 1881.

# THE MEDICAL RECORD:

## A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., Editor.

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## BEDSIDE INSTRUCTION.

This city, with other medical centres in this country, has reason to boast of many facilities for clinical instruction. In fact, it is well conceded that none but populous places, with public institutions for the care of the sick, can afford the requisite amount of material for the purpose. The teachers of medicine, with a laudable desire to meet the demands of the rising generation of medical men, have neglected no opportunities for instruction at the bedside and in the operating theatre. Comparing the present facilities for clinical demonstration with such as existed even a quarter of a century ago, we count substantial progress; and this, too, taking into account the enormous and disproportionate increase of students of medicine. But we make no startling statement when we assert that clinical instruction in this and other large cities falls far short of what is needed by the large number at present engaged in the study of medicine. To meet the necessities of the situation as much as possible, clinics are given at the various hospitals and in the college amphitheatres. For various reasons the college clinics are most patronized by the ordinary student. With the exception of Bellevue, the other large hospitals are at inconvenient distances from the colleges, the expenditure of much time is required in travelling from place to place, and the visits of the attending physicians and surgeons are not always so arranged as to be made during the off-hours of the student. Hence, he is too often tempted to take notes of a clinical lecture, and view the patient through an opera-glass. With the best of intentions on the part of his teacher, he rarely has more than half a dozen times during the session an opportunity of listening to a heart, feeling a patient's pulse, or verifying existing respiratory phenomena. This is no more his fault than it is that of his teacher. The student must take his turn and the instructor gives him every advantage, in a general way, of the clinical material at hand. But, that this is entirely inadequate to the needs of the student, goes without the saying. In some of the hospitals, students in any number are forbidden to tramp around the wards and otherwise annoy the patients. Much less is it permitted that any but a favored few, mostly such as belong to private classes, may take any part in the examination of patients. Of course we speak of such sick ones as would not be materially harmed by such examinations. Hence, the actual seeing of patients in the wards of the hospitals and at the bedside is denied to the larger number of students; and it has been proven in one of our sister cities that a student may graduate from a first-class medical college, and yet never, clinically speaking, see a case. But aside from the manner of clinical teaching, the material ordinarily presented at the college clinic is not such as will be generally useful to the student. Excepting the cases of Bright's kidney, chronic rheumatism, and phthisis, which are always at hand, the diseases such as he will see in his future every-day rounds as a general practitioner are sadly wanting.

Although it is the intention to give at least one obstetric case to a student before his graduation, the impossibility of carrying out such an intention would, considering the number of students to be supplied, involve a ten-fold increase of the present birth-rate, even among the otherwise prolific poor. Hence it is that many a young practitioner seldom has an opportunity of groping for the patulous os at the bedside of his first parturient, of making out the presentation until the head is in the perineum, and of liberating a supposed retained placenta until the latter is in the vagina. How often has the ordinary student a chance for seeing a simple case of measles, scarlet fever, or colic, until he is brought face to face with the puzzling realities in his own practice? Although the same may be said, in a less degree, of the utility of the surgical cases presented at the clinics, there is hardly one student in ten who ever feels bony crepitus until he has a case of his own, or has the opportunity of passing a catheter before being called to his first case of retention. It must be admitted that many of the difficulties in clinical teaching are almost insurmountable, and this must necessarily be the case so long as it is conceded that it is not the chief end of a patient to be the subject of clinical study. How to overcome some of these obstacles is the question with many clinical teachers. The "walking cases" which present themselves at the clinics are by no means as useful and desirable as they might be, while the more acute and interesting cases in the hospital-ward, such as are seen in every-day practice, are not visited as they should be. In view of the latter fact, we almost deplore the passing away of the old-time preceptor, who would have his pupil

accompany him in his rounds, demonstrate to him the progress of the ordinary diseases, and exemplify all the necessary details of treatment.

To make the most of the facilities at hand, it would seem necessary that some more practical and efficient system of hospital visitation than that now in vogue be instituted for the advanced students.

While not entirely supplying the demand for more practical clinical instruction, very much might be done in the direction of developing the same. A large amount of hospital material, so far as the good of students is concerned, is running to waste, and can, by a properly systematized arrangement, be made available to them. It does not appear impracticable to form small classes among the senior students in the colleges, and distribute the same among the different hospitals for stated periods. Nor would it be impossible to train such students as hospital-dressers, after the English plan, or as assistants to the house staff, as in some of the Continental hospitals. At all events, an improvement on the present plan of clinical teaching becomes more and more imperative as the number of students increase and the demands of a great medical centre become more and more apparent. As it is, the real clinical advantages of our hospitals are confined to the few who, after much competition, obtain positions as residents and walkers, while the larger majority of graduates go into practice with little or no previous clinical experience. All cannot expect to gain admittance as internes, but the larger majority of earnest students should not be denied the privileges of bedside instruction in our hospital wards.

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THE EXPERT TESTIMONY FOR THE PROSECUTION.

ELEVEN medical experts have, up to the time of our writing, testified to the sanity of Guiteau, and are thereby courteously relegated by the defence to the category of "liars or ignorami."

Dr. Fordyce Barker, who was first summoned, was asked, among other things, "whether a man's assertion that he was a chosen instrument of God, and was in direct communication with him as his trusted agent, would be evidence of an insane delusion." His reply embodied a point which we have already insisted upon, viz., that the previous character of the man, his habits, and general moral status must be considered in deciding upon a given act or opinion. Dr. Barker said: "Where such an assertion is put forward as a symptom of insanity, it is susceptible of proof. If the act were inconsistent and contrary to the previous habits and normal character of the individual, it would be a strong presumptive evidence of insanity. For example, if a man who has always been a hard-working, industrious man, of correct habits, moral, affectionate, fond of his wife and children, should cut the throat of his child and give as his reason that he was directed by the voice of God, that would be almost a sure proof of insanity; whereas, where a man had been always a tyrant to his wife and children, utterly reckless in his conduct of bad impulses, regardless of the laws of God and man, such an excuse would not be a defence, and would not be any evidence of delusion."

Dr. Barker denied the existence of moral insanity, saying that such a thing is unknown to science. This statement is a very extraordinary one. From other testimony given, however, it seems that the witness meant that there is no disease of the brain affecting the moral sense alone and conspicuously. Insane people were thought by the witness to be responsible for as much wickedness as they could restrain themselves from doing.

Dr. Webster Noble, physician to the District prison, testified to the sanity of the assassin. Dr. Noble had had frequent opportunities of seeing Guiteau, and had never observed anything abnormal in his mental characteristics while in jail. The witness also testified that Guiteau did not seem to feel any great confidence in his inspiration at first, and laid much less stress upon it. A lay witness who saw Guiteau twice shortly after the assassination gave some very strong evidence to this same effect.

Dr. Francis D. Loring, of Washington, testified simply to the fact that his pupils responded normally to light, that the retina was normal, and that the eye in general showed nothing which indicated cerebral disturbance.

Dr. Allan McLane Hamilton, of this city, testified that there was nothing in the physicial appearance of the prisoner from which anything of positiveness or value regarding the mental condition of the prisoner could be drawn. Dr. Hamilton said that the head presented no abnormality, except a slight bulging on one side. The witness considered Guiteau to belong to the class of the insane neurotic, or eccentric. He also thought that persons who were judged "medically insane" might still be responsible. Dr. Hamilton was subjected to a long and close cross-examination, which elicited nothing, however, favorable to the defence.

Dr. Theodore Damon, Superintendent of the Asylum for Insane Convicts at Auburn, New York, was an important witness for the prosecution, both on account of his ability and his experience with a peculiar class of the insane. This witness stated that he saw nothing in the prisoner which was not the result of his natural character, early training, and the life he had led.

Drs. Samuel Worcester, of Boston, and H. S. Talcott, of the Homœopathic Asylum, at Middletown, New York, had both been summoned by the defence, and had gone to Washington with a belief that Guiteau was insane.

The same was true of Dr. Henry P. Stearns, of the Hartford Retreat, at Hartford, Connecticut. These

gentlemen had all changed their views upon a closer examination of the prisoner. Dr. Stearns insisted, as one of his reasons for believing in Guiteau's sanity, that an insane delusion, culminating in an act so dreadful as that of the assassination, would probably have left a profound mental disturbance.

Dr. Orpheus Evarts, of the College Hill Sanitarium, Ohio, and Dr. Abraham M. Shew, of Middletown, Connecticut, testified that they had examined Guiteau and found no reason to believe him insane, either now or on the 2d of July.

Dr. A. E. MacDonald, of New York, testified very emphatically to the sanity of Guiteau. He also created some sensation by declaring his belief that Guiteau had been shamming to a great extent while in court.

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### EXPERIMENTAL INVESTIGATIONS REGARDING THE PATHOLOGY OF MALARIA.

We recorded some time ago the experiments made by Klebs and Tommasi-Crudeli, in order to discover the nature of malaria. These gentlemen announced, as the result of their work, a belief that the infective poison of malaria lay in a small organism, which was named *bacillus malariæ*.

Under the direction of the National Board of Health, Dr. George M. Sternberg, U.S.A., has made some carefully conducted experiments, for the purpose of confirming, or otherwise, the results of the European investigators.

Dr. Sternberg went to New Orleans to carry on his studies. Being located there, he took samples of the surface-mud from two swamps, also mud from the river *batture*, and from certain squares in the city of New Orleans. This he placed in different tin vessels with perforated bottoms, the vessels themselves being placed in a shallow dish of water. In this way small "artificial swamps" were created, upon which organisms were allowed to develop. Some of the mud from these vessels, with its contained organisms, was added to various solutions of fish-gelatine, and the subsequent developments watched. In the "artificial swamp" mud Dr. Sternberg found diatoms, amœbæ, infusoriæ, etc., as well as minute algæ and bacteria. Some of the bacteria bore a strong resemblance to those described by Klebs and Crudeli as *bacillus malariæ*. Still, the identification was not a certain one. In the gelatine cultures the ordinary *b. termo* of putrefaction was almost always largely predominant.

Small amounts of the mud and of the gelatine cultures containing these different organisms were injected into rabbits.

The object was to see whether this would not produce a fever which could be identified by clinical symptoms, or post-mortem changes, as malarial in character. Klebs and Crudeli based their diagnosis of the fever produced by inoculation of the so-called *bacillus malariæ* on the fact that there were remissions in it, that the animal at first increased in weight (an alleged characteristic of malarial fever), by the symmetrical enlargement of the spleen, and the deposit of pigment in the spleen and marrow of the bones.

Sternberg's experiments showed that unquestionably the gelatine cultures and the surface mud, with their contained organisms, possessed pathogenetic qualities. In nearly every case where these substances were inoculated, the rabbits succumbed to a resulting fever. But the character of the fever seemed to be only septic, and no evidence was obtained that the rabbits suffered from anything else. The points on which the previous investigators based their diagnosis of malarial fever were insufficient, as our author thinks, because (*a*) the temperature curve in their rabbits showed no distinctively paroxysmal character; (*b*) because healthy rabbits sometimes show diurnal variations in temperature as great as those indicated on the charts of Klebs and his co-worker; (*c*) because the changes in the spleen, described as characteristic of malaria, are found in rabbits who have died of septicæmia; and (*d*) because the presence of pigment in the spleen cannot be taken as evidence of death from malarial fever, inasmuch as this is frequently found in the spleen of septicæmic rabbits.

The conclusions of Dr. Sternberg are, therefore, that the experiments of Klebs and Crudeli are not conclusive.

The fevers brought on by the inoculations of swamp-mud, or gelatine cultures, were probably septic, and not malarial.

Still, though there is as yet no experimental proof that malaria is caused directly or indirectly by microscopic organisms, Dr. Sternberg is very confident that some of these do contain the specific poison, and he makes a strong appeal for further experimental investigation.

It is suggested that crucial experiments can only be performed upon man himself. We think it quite certain that not much more can be learned by inoculating rabbits. There have been quite as many extravagances and errors made, as truths obtained, by experiments upon these scrofulous animals. Yet it may not be necessary, at first, to experiment upon man, in order to determine where the malarial poison has been obtained. At least, there are high authorities who state that sheep, and even horses and other domestic animals, are subject to undoubted attacks of ague.

One is impressed with the hard work required, in order to give any special *bacillus* an assured place as a cause of disease.

# Reviews and Notices of Books.

Ueber den Kreislauf des Blutes im Menschlichen Gehirn. Untersuchungen von A. Mosso. Mit 87 Abbildungen im Text und 9 Tafeln. Leipzig: Verlag von Veit & Co., 1881.

Researches on the Circulation of the Blood in the Human Brain. By A. Mosso. With 87 Illustrations on wood and 9 Plates. 8vo, pp. vi., 222. Leipsic, 1881.

This volume is written in German, although its author, Professor Mosso, of the University of Turin, is an Italian. It is dedicated to Moleschott, whose influence is markedly appreciable in the writings of his pupil. A historico-critical introduction summarizes in a very thorough way the labors of various writers upon this subject, from the Græco-Roman period down to the present day. Mosso was enabled to study the cerebral circulation principally upon three subjects who had sustained a loss of substance of the skull. His technical improvements in the apparatus necessary for continuous registering of the pulse, says the author, and his good fortune in obtaining a typical cranial defect, enabled him to pursue such an important series of graphical studies on cerebral circulation that in his book he has relied almost exclusively upon his own researches.

In the chapter on general characteristics of the pulse, he states that all general sphygmic phenomena, with the exception of rhythm and in part of pulse height, are independent of the heart—are local manifestations. His views on this subject are to be further elaborated in a future work. The author then goes on to consider the cerebral circulation as modified by psychical influences, by slumber, chloral sleep, the condition of the blood-vessels and heart, by respiration, and by amyl nitrite. He furthermore devotes several chapters to collateral matters, such as the nature of sleep, the circulation in the rabbit's ear, experimental criticism of Quincke's and Pfeiffer's, Funke and Latschenberger's, and Bowditch's researches upon the pulmonary circulation, anæmia and hyperæmia of the brain, and the movements of the cerebro-spinal fluid.

In his chapter on the nature of sleep, he agrees with Carpenter, Lotze, and Maudsley, that in sleep, as well as in waking, there are unconscious psychical processes. He also asserts that his sphygmic experiments justify the statement that in sleep there may be a period of such profound rest of the psychical centres that all such processes are absent. Mosso has demonstrated experimentally, in regard to the circulation in the normal head, what Lorry and Capie endeavored to establish upon theoretical grounds. He concludes that the amount of blood contained in the cranial cavity does not vary, but that its distribution in the capillary, venous, and arterial systems is altered. Every arterial pulsation displaces an equal quantity of blood from the veins, and imparts to the venous stream a pulsatory movement like that of the arterial current. This mechanism explains what results from the fact that the veins of the cranial cavity have no valves, and open into vessels with rigid walls. The absence of valves favors circulatory fluctuations, inasmuch as the space created by arterial contraction is immediately occupied by a regurgitation from the veins, which would be impossible were valves present. The rigidity of the larger venous channels is destined to prevent interference with the circulation resulting from continual changes in the volume of the encephalon, due to various circumstances.

In the chapter on the movement of the cerebro-spinal fluid he experimentally proves that the views generally accepted in regard to this subject are erroneous. If a moment's consideration, he says, had been given to the abundance of cerebral veins, to the extreme dilatability of the vessels, and to the insignificant changes of volume caused by respiration, the assertion would never have been made that a negative pressure could be produced in the brain, sufficient to lift up a column of liquid like that contained in the spinal subarachnoid space.

Altogether, this volume is a highly instructive and elaborate essay on a subject in which contending views of a mainly theoretical nature have wrought great confusion. Mosso certainly deserves all praise for his efforts to throw the light of a series of unimpeachable experiments on this intricate matter. And if he has not accomplished all, he has, at least, accomplished enough to entitle him to the thanks of the profession.

A Handbook of Vertebrate Dissection. By H. Newell Martin, D.Sc., M.D., M.A., and William A. Moale, M.D. Part I. How to Dissect a Chelonian. New York: Macmillan & Co. 1881.

This little work forms the first of a series intended for the help of students and teachers in biology and comparative anatomy. The Chelonian is chosen here for description, partly because it is so difficult to dissect, and partly because the great persistence of vitality in its various organs after general death has taken place makes the animal a very useful one for physiological experimentation.

The present monograph is clearly and concisely written. The publication of a series, of which this is the first, indicates a growing interest in the study of biology, of which it is gratifying to learn the existence.

Iconographie Photographique de La Salpêtrière (Service de M. Charcot). Par Bourneville et P. Regnard. Tome I. Hystéro-Épilepsie. Tome II. Épilepsie Partielle—Hystéro-Épilepsie. Paris: Publications du *Progrès Médicale*. V. Adrien Delahaye et Cie. 1876–77, 1877–78.

These volumes form a novel, but most interesting and valuable contribution to clinical medicine. They are composed chiefly of the records of cases, but are unique in the fact that each case is illustrated with several photographs, showing the patients in different stages of their attacks. To carry out the design of a work of this nature requires more than ordinary care, as well as special skill and appliances. One of the authors, M. Regnard, interne at La Salpêtrière, happens to be a photographer as well as a physician. With the aid of the hospital authorities, he was supplied with instruments, and, indeed, a regular photographer's saloon was fitted up in connection with M. Charcot's laboratory. In this way M. Regnard was able to have his apparatus always at hand. When any typical attack occurred, he at once photographed the patient in the various stages of the disease. By this means we have presented accurate representations of the various phases of hysteria, epilepsy, and hystero-epilepsy. The characteristic attitudes and expressions are given in a way which no pen or pencil could imitate.

There are, in the first volume, forty illustrations of cases of hystero-epilepsy. These photographs

are supplemented with carefully written histories, and with comments upon the nature of the disease.

The second volume contains thirty-nine photo-lithographs, besides a number of woodcuts, and a somewhat fuller text.

The photo-lithographs are admirably done, and being permanent, make the second volume more valuable even than the first.

# Reports of Societies.

## NEW YORK PATHOLOGICAL SOCIETY.

*Stated Meeting, November* 23, 1881.

DR. T. E. SATTERTHWAITE, PRESIDENT, IN THE CHAIR.

### PACHYMENINGITIS CHRONICA.

DR. GEORGE L. PEABODY presented three specimens illustrating this affection. They were accompanied with the following histories:

CASE I.—P. M——, forty-five years of age, born in Ireland; married; a shoemaker, and without previous history; was admitted to Chambers Street Hospital, October 7, 1881, at 10.35 A.M. On admission he was unconscious; surface dry; temperature 99.4° F. Left side of face, and left arm and leg paralyzed, both as to motion and sensation. Left pupil dilated, right contracted. Right arm rigid; breathing stertorous; urine negative.

*Treatment.*—Ice-bag applied to head. Right pupil subsequently became dilated, but neither was responsive to light. Paralysis became general. Pulse was 72, temperature 106°, just before death. Patient died on same day at 6.50 P.M.

*Autopsy,* sixteen hours after death.—Only the points of interest were given. The left ventricle was considerably hypertrophied and slightly dilated. The valves were normal; the kidneys were in condition of chronic diffuse nephritis. The dura mater, on its inner surface and right side, was covered by a thick, false membrane of fully formed connective tissue, whose vessels contained much blood-pigment and many blood-vessels. Numerous clots of recently coagulated blood were lying upon the ascending parietal and frontal convolutions of the right side, and about four ounces of fluid blood spread over the surface of the right hemisphere. The convolutions were compressed by this blood, and the convolutions of the left hemisphere were distinctly flattened by the pressure thus indirectly put upon them.

CASE II.—Unknown man, about thirty-five years of age, was found on evening of November 13, 1881, in the street, in condition of unconsciousness. He was admitted to Chambers Street Hospital, November 14th, 5.30 A.M., still unconscious. He was reeking with the fumes of alcohol. Pulse intermittent and feeble; temperature, 101.5°; respiration shallow; pulils dilated; urine contains a small amount of albumen.

*Treatment.*—Hot-air bath and stimulants. At 9 A.M. pulse had disappeared at wrist, and the patient was sinking. Temperature, 98° F.; pupils contracted. Died at 10.50 A.M.

*Autopsy,* immediately after death. Body well nourished; no œdema; lungs normal; heart normal; kidneys in the condition of chronic diffuse nephritis, not far advanced; stomach and liver normal. On the left side of the falx cerebri is a layer of false membrane, made of fully formed connective tissue, containing blood-pigment, and markedly congested. It is about half an inch in width, and extends from a point half an inch behind the origin of the falx to the union of the falx with the tentorium cerebelli. On cutting through the dura mater a large amount of fluid blood escaped, probably eight ounces.

CASE III.—Mrs. G. R——, aged forty-seven; born in France; widow; nurse; was admitted to New York Hospital, May 15, 1881. Brought in an ambulance at 4 P.M. Patient was unable to give any history, and the facts were obtained from her friends. During the past week she has been much in the sun, and was well up to last night; then, on her return home, complained of headache and drowsiness. She went to bed, and was found this morning with paralysis of the right side of the body, and speechless.

On admission, pulse, 96, respiration, 18, temperature, 99.6°; well nourished; marked œdema of left hand; pulse full and forcible; patient very stupid—does not reply to questions, and does not appear to understand them; pupils dilated, and very sluggish; complete paralysis of motion and sensation on right side of body and face; reflex diminished in right leg, absent in right arm; no abnormal heart-sounds. Urine acid, sp. gr. 1034, contains urates. She remained in this condition for four days, pulse, respiration, and temperature being normal. She passed urine and fæces in bed. She then regained very slight motion in the right arm and leg. Then she became decidedly worse. Paralysis again became complete. Six days after the attack began she became comatose, with stertorous breathing. Her temperature rose to 103°. She continued profoundly comatose, and died on the ninth day, with a temperature of 106.2° F.

*Autopsy,* eleven hours after death.—Body well nourished; rigor mortis well marked; slight œdema of both lower extremities and of the left hand.

The kidneys were small; many cysts in the cortex; marked atrophy of the cortex; markings indistinct. There was about six ounces of fluid blood, which was very brownish in color (owing to abundant amount of blood-pigment dissolved in serum), beneath the dura mater of the left hemisphere. This, by its pressure, had very markedly disturbed the surface of that hemisphere. The dura mater in this situation was covered, as was seen, by a false membrane, which was of a brownish color, owing to the blood-pigment which it contained. This had been raised from the surface of the dura mater by extravasated blood. It was made of connective tissue, and seemed to be quite vascular. On the other side of the head there were smaller patches of false membrane on the dura mater, which contained, at the autopsy, mostly extravasated blood.

The walls of the left lateral ventricle were approximated by pressure. The brain-tissue was nowhere lacerated.

The only other lesion of interest was that of chronic diffuse nephritis, already alluded to, which was verified by microscopic examination.

### CEREBRO-SPINAL MENINGITIS, ACUTE ENDOCARDITIS, AND PERICARDITIS.

DR. H. N. HEINEMAN presented specimens removed from the body of a boy, fourteen years of age, with the following history: Z. T——, a clerk, Austrian, was admitted to the Mt. Sinai Hospital, November 19, 1881. Two days previously he was seized with severe headache, pain in the back and limbs, with a not very marked chill, followed by fever, with loss of appetite, constant vomiting, and epigastric dis-

tress. His bowels were constipated. Upon admission he was rational; complained of severe headache, epigastric and abdominal pain, and more or less constant vomiting; the tongue was thickly coated; the bowels constipated; pulse, 120, and feeble; temperature (rectal), 105.2° F.; heart and lungs negative.

November 20th.—Stomach was less irritable; patient rational, but somewhat apathetic; pulse, 130; temperature (rectal), A.M., 103.4° F.; P.M., 105.6° F.; no pericardial friction-sound; fæces and urine passed involuntarily.

November 21st, 6 A.M.—A purpuric eruption appeared first upon the chest, then on the face, and then on all the extremities, but little upon the back. Temperature, 104.8° F.; pulse, 140, feeble. At noon the patient was quiet; answered questions, though delirious; had photophobia, and the pupils were dilated and responsive; there was hyperæsthesia along the spine (no opisthotonos); dysæsthesia of feet and legs, most marked on the left side; the purpuric eruption was fading upon the chest; there were pin-point ecchymotic spots upon the body and extremities; a large ecchymosis upon the palmar surface of the left hand, and one over the left external malleolus. At 3 P.M. there was feeble and diffused apex-beat, and slight increased area of pericardial dulness; pericarditis was suspected by Dr. Weiss, acting house physician. At 11 P.M. a second crop of purpuric spots had appeared all over the body, also ecchymoses involving the entire fingers of both hands; the patient was pulseless; temperature, 106.2°; there were convulsive movements of the muscles of the face and body, most marked on the left extremities.

November 22d, 2 A.M.—Pulse restored, 160. At 3 A.M. he had a second slight convulsive seizure, and died at 3.20 A.M.

The autopsy revealed the following lesions:

*Brain.*—The pia mater was lustreless, congested, and inflamed; contained a few small, ecchymotic spots, and, in a few places, a very limited fibrino-purulent exudation. The posterior horn of the right lateral ventricle contained a tolerably firm, rounded clot, which had caused breaking down of the tissue of the occipital lobe and almost approached the surface. Deep in the substance of the left occipital lobe was a small, recent, firm clot about half an inch in diameter. The ependyma of the lateral ventricles was thickened. The pia mater of the cord was congested, inflamed, and somewhat opaque, but contained no exudation.

*Lungs.*—The bronchial mucous membrane was inflamed, coated by a thin, whitish layer of fibrin, and an abundant muco-purulent exudation. The lower lobes of the lungs were congested, the upper lobes were dry.

*Heart.*—The mitral valves were covered by recent vegetations. Near the apex in the anterior wall of the left ventricle was a small cavity indicative of a probable abscess and destruction of tissue. A zone of dark-colored heart-muscle surrounded it. The pericardial sac contained considerable purulent serum, and both pericardial layers were thickly coated by recent fibrino-purulent exudation.

*Liver and spleen* congested.

*Kidneys.*—Normal size; capsule not adherent. The left kidney contained numerous small yellowish and whitish abscesses about the size of a pin's head, each surrounded by a red zone. In the right kidney there was a large white infarction and a few small abscesses similar to those found in the left kidney.

The case was one of epidemic cerebro-spinal meningitis, with acute endocarditis and pericarditis. The infection had also involved the kidneys; and probably the exudation upon the mitral valve, as well as the punctate abscesses in the kidney, contained micrococci.

### WELL-MARKED SYMPTOMS OF CHRONIC DISEASE OF THE BRAIN, WITH ONLY CONGESTION OF THE VESSELS OF THE PIA MATER AND THE CEREBRUM AT POST-MORTEM.

Dr. Van Gieson presented a brain, accompanied with the following history: It was removed from the body of a man thirty-six years of age; well-developed, strong and muscular, and of good constitution. He had had exceptionably good health, was married, and temperate in his habits. He had never had syphilis. His parents are still living, and in good health. Up to last January [1881] he had had no feeling of illness; attended to his business regularly; but was occasionally taken with a severe pain in the left side of his head.

Some weeks before this he fell from a wagon, struck upon his head, received a scalp wound, picked himself up and drove on, not attaching enough importance to it to think it necessary to consult a physician. His wife, in the absence of any other apparent cause, ascribed all his subsequent trouble to this fall, although the interval between it and the development of the pain in the head was some weeks. From January until February 15, 1881, he had a fever and was confined to his bed for four or five days, during which time he had several tonic convulsions. He left the bed in five days and applied himself to business. In about a week he had a similar attack, lasting four days, again attended with tonic spasms.

His physician told his family that he was suffering from cerebral hyperæmia from over work, and advised complete rest from business. The advice was not followed. Not long after, a third and more severe attack set in, spasms being again a prominent feature of the illness. During this third attack he had also double and indistinct vision. He again recovered, and spent a few weeks in the country, and was not, during this time, under the care of a physician, but had one or two attacks of spasms again.

Dr. Van Gieson first saw him on May 24th, P.M. His temperature was then normal; pulse, 56, full, but compressible; he was entirely sensible, and gave the doctor the foregoing facts in the history of his case.

May 26th.—Has had several convulsions since last visit; has little or no pain in the head.

May 29th.—Pulse, 50; respiration normal; temperature normal; urine normal; heart and lungs normal.

Diminished power in grasping with right hand; has double vision; unable to read print at any distance with both eyes; with the right eye closed, he can see more distinctly with the left eye; there is loss of muscular power on the right side; but he is able to move the arm and leg freely; there is no loss of sensation, but rather general hyperæsthesia; a slight irritation, sudden pricking of the skin, will bring on a convulsive movement which is tonic in its character. The head is slowly thrown back, the eyes become fixed, the muscles of the arms and legs become rigid, and remain so for a few seconds, sometimes the greater part of a minute; then comes a sudden relaxation; this may end the attack, or he may have a repetition. There is no frothing at the mouth; no biting of the tongue; and, during a slight spasm, he does not entirely lose consciousness.

May 30th.—The bowels have not been moved in five days; pulse, 56; urine made but twice in twenty-four hours. One-third of a minim of croton oil, repeated every four hours, gave, after the second dose, a moderate passage. This was followed by 5 grain doses of kal. iod. every two hours, with 20-grain doses of ammonii bromide every two hours during the night, to control the spasms.

June 1st.—Slight improvement; increased kali iodide to 10 grains.

June 4th.—Pulse, 52. Right leg cooler than the left; has passed no water in thirty-six hours; has had no convulsions since 31st ult.

June 6th.—Can see clearer; has no double vision, and can read coarse print; pulse, 64; bowels constipated; intellect clear; only slight headache.

June 14th.—The treatment has been kept up. Condition about the same. Vision is clear, only double at times; pulse varies from 48 to 56; obstinate constipation is a prominent feature; gets a fair amount of sleep; is unable to stand alone; right leg weaker than the left; tendon reflex in both legs normal.

This A.M. his wife was accidentally shot by her brother-in-law, who was handling a small pistol in the sick-room. The wound, though not mortal, was a severe one. This accident threw him into violent and long-continued convulsions, requiring one or two strong assistants to hold him during their height.

June 25th.—He has returned to his usual condition. He is entirely rational, and very anxious to resume his business. He has an average of about three convulsions daily.

June 27th.—Consultation with Dr. E. G. Janeway. It is thought that cerebral humor exists. The prognosis is fatal. Elevation of temperature and coma may be expected to precede the fatal result. The duration of the disease is uncertain. Its progress will be slow.

July 10th.—Pulse, 48 to 56 during the interval. Obstinate constipation persists. Continue the treatment.

August 1st.—Condition unchanged; vision better; reads newspapers at times; intellect clear; memory defective.

August 25th.—Has been twelve days without a convulsion. Is very much emaciated, and daily growing weaker. Temperature has remained normal throughout. Pulse varies from 48 to 56.

September 14th.—No special change; the intensely hot weather has materially weakened him. The spasmodic movements occur at long intervals. The loss of muscular power on the right side is very marked. The vision has improved. Treatment suspended, except occasional doses of bromides and chloral hydrate.

October 8th.—Is inclined to stupor; is awakened with difficulty. Pulse, 60; temperature normal. Emaciation very marked.

October 18th.—Has been free from convulsions for two weeks; the bowels move, without medicine, every second day. His intellect is clear. The tendency to stupor has disappeared. He is wasting rapidly. There is retraction of the abdominal walls.

October 29th.—He is again inclined to stupor, quite profound.

November 1st.—He lies motionless, the eyes open and fixed; the pupils contract to light, but the eyes do not follow the light when moved from side to side. Respiration, 24, pulse, 68, temperature normal. When loudly spoken to he replies sensibly in a faint whisper. He is unable to swallow.

November 4th.—Remains in the same condition—has had two slight convulsions daily. Desires cold water continually poured on the head. When the affusions are stopped for a time, he faintly makes signs, and with indistinct whispers desires to have them renewed. Though unable to swallow, he requests ice-water to be poured in his mouth. If his requests are attended to he will remain motionless for hours, but if the pouring is long withheld he becomes impatient.

November 9th.—The affusions have been kept up with but slight remissions. Pulse, 120, faint and thread-like. The cornea dim. Mucus exudes from the corners of the eyes. He says occasionally, in a faint whisper, that he thinks he will get better. Slight convulsions have occurred two or three times daily, followed by distressing fits of coughing. He remained nearly in this condition, growing weaker each day, until November 16th, when he quietly died at 10 A.M., having swallowed not a drop of fluid for fourteen days.

The necroscopy was made at 1.30 P.M. the following day—about 27 hours after death, Dr. J. A. Jenkins, of Brooklyn, assisting. The cranial cavity and contents only were examined. The pia mater was found intensely congested. About one and one-half ounce of serous fluid, faintly tinged with blood, was left in the cavity of the skull when the brain was entirely removed; no further examination of the brain was made at that time. The next day it was carefully examined by Prof. Janeway, with negative results. The main lesion, to the naked eye, was very marked congestion of the pia and the vessels in the substance of the brain. Small portions from various parts of the brain were placed in Müller's fluid for microscopic examination, but the examination thus far had given negative results.

### GRAINS OF GUNPOWDER EMBEDDED IN THE SKIN—REMOVAL WITHOUT REMAINING DISCOLORATION.

DR. B. A. WATSON presented a boy who, on the Fourth of July last, had a large number of grains of gunpowder lodged in the skin of the right side of his face—the cheek, nose, and lips. The operation for their removal was done in the following September, and consisted in taking away small discs (eighty-four in number) of the integument, including the grain of gunpowder. The deformity left was very trifling indeed. The instrument with which the operation was performed was called a discotome. [See MEDICAL RECORD, vol. xiv., p. 78.]

### PNEUMONIC PHTHISIS—EARLY FORMATION OF CAVITIES.

DR. BEVERLEY ROBINSON presented the lungs removed from the body of a man who died in St. Luke's Hospital, November 11, 1881. He was admitted to the hospital October 17th, when there was found evidence of general bronchitis, with consolidation in lower two-thirds of the right lung. Three weeks previous to admission he had a chill, cough, and hæmoptysis, and the spitting of blood (of a bright red color) had continued daily, more or less. He had slight night-sweats, loss of appetite, dyspnœa, but felt very well when he had no hemorrhage, and when admitted was well nourished and did not seem weak. Pulse accelerated and temperature elevated. In the latter part of October a noticeable feature was a difference of 5° F. between the morning and evening temperature.

At the autopsy, the right lung was found firmly adherent to the chest by recent adhesions. The middle and lower lobes contained cavities of varying

size, the largest being in the upper portion of the lower lobe, and of the size of a pigeon's egg. The left lung was œdematous and deeply congested, contained several points of extravasation, and spots of commencing cheesy pneumonia.

The spleen was small and firm. The kidneys were fatty; capsule neither adherent nor thickened. Weight: left, five and one-half, and right, four ounces.

The points of special interest were the rapid development of phthisis, and the notable fluctuations of temperature.

TYPHOID FEVER—SUDDEN DEATH—ANTE-MORTEM HEART-CLOT.

Dr. Robinson also presented the heart removed from the body of a man, thirty years of age, who died suddenly during the progress of typhoid fever, in St. Luke's Hospital, November 12, 1881. Death occurred on the nineteenth day of the disease. The patient's temperature had not been very much elevated until the second day before his death, when it reached 103½° F., and the pulse, 120. Diarrhœa. On November 9th and 10th he was delirious and weak; on the 11th, semi-comatose; and on the 12th, his breathing became very rapid without apparent cause; face and extremities not cyanosed, and he gradually sank, and died at 9.15 A.M.

At the autopsy, there were enlarged and softened spleen, splenization of the lungs, fatty kidneys, swollen solitary follicles, and numerous ulcers scattered along the entire length of the ileum. The ileo-cæcal valve was thickened and extensively ulcerated.

The feature of special interest was the existence of a long, slender, fibrinous clot attached to the aortic and mitral valves, and extending, ribbon-like, into the aorta. There was also an ante-mortem clot attached to the chordæ tendinæ. There was quite extensive granular degeneration of the muscular fibre of the heart.

According to his observations, there was a marked difference between the condition of the heart of a patient dying of typhoid fever and of one dying of diphtheria. Although apparently similar in character, he had found the right heart, ventricle, and auricle, in diphtheritic patients filled, as a rule, with a mass of fibrinous deposit, which seemed to have been formed some days prior to death. In several cases of death from typhoid fever he had found the blood in the right heart liquid, and in the left heart fibrinous masses of small dimensions, but they did not seem to be the immediate cause of death.

With reference to treatment, he asked to what extent alcoholic stimulants and heart-tonics, such as digitalis, nux vomica, etc., could be pushed with advantage in cases similar to the one reported.

Dr. J. Lewis Smith referred to the prevalence of a continued fever in the northwestern part of the city, and was inclined to attribute it to the insufficient supply of Croton water, which prevented proper washing of the waste-pipes in some of the tenement-houses. In some of the cases the disease had lasted three or four weeks, and had usually terminated favorably. Diarrhœa had been absent in some of the cases, and in none which he had seen had he been able to find the rose-colored eruption.

Dr. Wendt said that an irregular type of typhoid fever was prevailing in some of the lower and eastern districts in the city. He had made several autopsies, but had not found extensive lesions either in the intestines or other organs. He believed that a certain proportion of these patients would die irrespective of treatment.

Dr. Robinson believed there was not much correlation between a certain amount of rise of temperature and granular degeneration of tissue in diseases of the ordinary infectious type.

The President remarked that a reciprocal relation did not always exist between the two conditions, especially in the English cases, where the temperature rose to 114° and 120° F. and the patient recovered. The excessive temperature in those cases was doubtless due to some affection of the sympathetic nervous system rather than to organic disease.

Dr. J. Lewis Smith presented a specimen of

RACHITIS.

The society then went into executive session.

## MATERIA MEDICA SOCIETY.

*Stated Meeting, November* 26, 1881.

Dr. Piffard, President, in the Chair.

ACIDUM BORACICUM AND CALENDULA OFFICINALIS IN AURAL AFFECTIONS.

Dr. Sexton read a paper on the above topic, in which he gave the natural history of the drugs, their chemistry, and a thorough résumé of the literature of the subject. Old writers recommended calendula in a variety of morbid conditions, employing it in ulcers of the womb, uterine enlargements, cancer, as an emmenagogue, anti-emetic, diaphoretic, vulnerary, etc. He contrasted its extensive use in the past with the present neglect of the remedy. Boracic acid was an efficient anti-septic, exerting no toxic effects on the system. The two drugs in combination might be advantageously exhibited in aural affections, notably in chronic suppurative otitis media.

The discussion was opened by Dr. Farnham, who stated that he had never used the remedies in combination. Boracic acid he had used with satisfactory results in cases of eczema of the scrotum. He thought it was rather more irritant than Dr. Sexton was inclined to believe, and had employed it in one to five per cent. solutions. He had used calendula as a vulnerary on the recommendation of Dr. Piffard, and had found it of value both in ulcers and fresh wounds. It had given him satisfaction as a healing agent after the application of caustics.

Dr. Johnson stated his belief in the antiseptic effects of boracic acid, but expressed doubts as to the vulnerary virtues of calendula. It was difficult to prove that anything helps the healing of incised wounds in the healthy subject, as the reparative process was, in the large number of cases, accomplished when the wound was left alone. When the infusion of calendula was used, the effects might be due rather to the water than to the calendula. In ulcers it might have sufficient irritating properties, like those possessed by a thousand other remedies, to stimulate the ulcerating surfaces. He did not believe it had any specific effect in these cases. In regard to its use in cancer, ulcer of the womb, uterine enlargement, etc., he thought the statements of authors of the past were comparable to the opinions held by knowing old women as to the miraculous powers of various household remedies.

Dr. Bronson had used boracic acid in a few instances. He had employed it in two cases of bromidrosis with apparent success, directing the patients to soak their stockings at night in a saturated

solution of the drug. As, however, he had, in addition, used salicylic acid and other remedies, he could not say which had contributed most to the patients' improvement. The Germans were employing it in cutaneous affections. He had had no personal experience with calendula.

Dr. Webster had had some experience with boracic acid in chronic suppurative inflammation of the middle ear, and considered it a valuable remedy in that disease. After the ear had been syringed out with warm water and dried with absorbent cotton, the powdered acid was blown in by means of the powder-blower. He had met with cases that had resisted treatment by nitrate of silver, alum, and sulphate of zinc, which yielded to boracic acid. Again, other cases were not benefited by the acid. He did not know the differential indications of the various remedies mentioned, but was sure that in certain instances the acid was efficient in the treatment of ulceration and discharge. Some of the good results attributed to boracic acid might have been due to the enforcement of cleanliness, as this alone frequently sufficed to bring about a cure. He had no personal experience with calendula, but knew that it was used as a household remedy in the form of marigold tea for colds.

Dr. Castle has not had an extended experience with boracic acid, but had used it in catarrhal discharges from the cervix and body of the uterus. He had employed it in solution, never in powder. When used in this manner at daily intervals, it lessened the discharge and improved the character of the inflammation. As to calendula, he was not sure that it was of special service as a vulnerary, but could not recollect any cut or fresh wound which had done badly when dressed with it.

The President remarked that Dr. Sexton's paper was important, as giving in collected form such a résumé of the literature of the subject as could not elsewhere be found. It would be of advantage if the literature of all the older drugs, which have now fallen into disuse, might be thus compiled, although, as Dr. Johnson said, the isolated opinions of writers of the past might often be of no value, yet when, without copying one from another, the authors were unanimous in regard to a certain point, this point deserved attention. Such a coincidence of opinion existed in regard to the vulnerary virtues of calendula in wounds and ulcers. That it was supposed to be efficient in cancer was probably due to the fact that, in the past, simple ulcers with indurated margins were frequently diagnosticated as cancers. Rust, a careful observer, recommended it in cancerous ulcers. The President thought the remedy should be tried in this direction; if a mild drug could be used instead of the knife or caustic, the fact was worth knowing. He used it in his practice as a vulnerary in cuts inflicted by himself, and in other cases, and had seen it employed in his childhood as a domestic remedy. In the majority of instances, it would be impossible to prove that the drug had promoted healing, as this would have taken place anyway; but, in a number of cases, he was certain of its efficacy. When a wound is sewed up, he said, and the stitches are left in four or five days, suppuration is apt to follow the course of the suture, but in wounds dressed with calendula he has often observed that no suppuration took place. In a lesion of continuity of the forehead, he sewed up the wound with silk, and employed the calendula dressing; in the same patient an application of chloride of zinc (an antiseptic and antiputrefactive) was made elsewhere. The wound in the forehead, in spite of sutures and ligatures, healed without suppuration, although the patient was scrofulous and had lupus of the face; wherever the zinc had been applied, there was suppuration. Calendula had also prevented suppuration after an operation for cancer of the lip, although the ligatures were not removed until the tenth day. He recommended the remedy as a dressing for wounds. In ulcers, suppurating too freely, it was of as much service as carbolic acid, and was not objectionable on account of its odor. As alcohol in itself was an efficient dressing for wounds, he experimented with preparations containing no alcohol, and obtained good results.

Dr. Sexton had had but little experience with boracic acid. He had found the application of the powdered boracic acid to be of service in removing the odor in suppurative inflammation of the middle ear. He expressed himself, in general, extremely satisfied with the application of the remedy. A number of cases which had been greatly aggravated by nitrate of silver and other strong applications, which had been sent to him, yielded to boracic acid and calendula. Cleanliness was, of course, necessary, but he thought syringing and cleansing the ear was sometimes overdone, and harm produced; some cases would recover much faster without syringing. On account of the solubility of the remedy in water, there was no danger of its forming concretions in the ear. In cases of active suppuration it is retained with difficulty; the parts should, therefore, be dried before the application is made.

In Italy, it was remarked, boracic acid was used to preserve butter, and in the United States to preserve cider. In France, infusion of mugwort and marigold had a reputation as an emmenagogue. The diaphoretic and anti-emetic effects of calendula were not regarded as specific.

The society then went into executive session.

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Pasteur's Vaccinations.—Statistics, brought up to October 1, show that the inoculations of splenic fever, according to Pasteur's method, were performed on 160 flocks, comprising 68,900 sheep, of which 33,576 were vaccinated, and 21,938 left uninoculated, so as to judge of the results of the difference of treatment. Before vaccination, the losses caused by splenic fever amounted, in the whole of the flocks, to 2,986 animals. During vaccination, and until its effects were perfected, 260 sheep out of the whole number of 33,576 perished. During the same period the mortality rose to 366 out of the group of 21,938 which were not vaccinated. When the effects of vaccination were complete in the first group, the mortality from splenic fever fell to 5. This rate has persisted up to the present time, and the next statistical account will give, it is expected, the same satisfactory results as regards the groups of animals vaccinated and left unvaccinated.—*British Medical Journal.*

Hot Water in the Treatment of Eye Diseases is highly recommended by Dr. Leartus Connor (*American Journal of Medical Sciences*). He believes it to be the sole agent which will induce contraction of the blood-vessels without irritating the eye. The water must be as hot as can be borne, and must be thrown against the eye with the hand. It should be used two or three minutes three times a day, or for five minutes every half hour, according to the indications.

# Correspondence.

## WATER TRANSPORTATION IN FLORIDA.

To the Editor of The Medical Record.

Sir: The time was when only those who could brave every discomfort went to Florida. They consisted of two or three small classes: the consumptive, in search of a genial winter atmosphere; the sportsman, to fish and hunt; and the dealer in lumber. At that period, the means of access by land, the hostelries, and the boats upon the rivers and lakes, were peculiarly bad. At the close of "the war," a new era at once began. A leading citizen of Jacksonville told me yesterday that when he moved into that town in 1857, one or two horses and carts did the business for the place, and that no one thought of selling oranges. A plot which to-day is worth one hundred thousand dollars then sold for one thousand. Last year a firm in the grocery trade did a business of one million of dollars, and during the winter season now, fifteen or twenty steamboats, and a great number of other vessels plying on the St. John, are taxed to their utmost capacity to carry the promiscuous freight to the interior, and bring away the millions of oranges and other products which are shipped to every part of the United States. Into the State is flowing a steady stream of tourists and settlers. Railways are built, projected, or in process of construction, opening up all parts of the State, and there is a universal spirit of thrift which betokens successful industry, satisfaction, and hope. I only mention these things as incidental; they have a sanitary bearing, it is true, of vast importance, inasmuch as the majority of those who go to the State in search of health must also find a means of livelihood. It is interesting to observe that the flow of settlers into the State is largely from those portions of the East, North, and West in which the winter is long and depressing. Very many come from Maine, Vermont, Massachusetts, Illinois, Wisconsin, and Minnesota. Such emigrants tell you that after some years of trial they have grown weary of the long winters, in which so many industries are compelled to hibernate, and that their health has begun to succumb under the prolonged cold. I have talked with such persons during my brief sojourn here, and learned that they are satisfied with their change, and do not find the summers oppressively hot or debilitating. The chief industries are agricultural. The increase in the acreage of orange groves is most remarkable. This is also true of vegetables for the northern market. All these occupations are said to be remunerative, and afford a variety of out-of-door employments which do not demand excessive physical labor. All the steps for the tillage of the soil and marketing of crops are comparatively easy, and the harder forms of labor fall to be done during the coolest season. As regards the general salubrity of the country, the low sickness and death rate, the testimony is most satisfactory. I will not give the data which have been gathered for the forthcoming census; suffice it to say they will go far to remove the popular error that Florida is to be classed among the unhealthy States. One of the oldest and most intelligent of the captains sailing on the St. John's River told me that during his twenty years' experience fevers had scarcely been known on his boat; that last summer, for instance, not a hand or officer had been ill with it. In the river towns, however, there are spring and autumn fevers, and septic diseases have occurred, which go to show that, with population, preventable sickness of a malignant type will come, as everywhere. There is a peculiarity in the topography of the river and lake towns which is well worth description, as it is almost universal or typical, and suggests a source of grave insalubrity, if not turned to good account before sore pollution follows population.

Almost every town and hamlet that I have seen on the shores of the rivers, and the borders of the lakes, stands on a ridge, or knoll. The consequence is that immediately back of every such town or hamlet there is a "sloo" or bayou, occasionally overflowed, but commonly marshy and sour, and the dumping-place for the rubbish and filth of the town, or not unfrequently the objective for the earliest attempts at sewerage. Near such suburbs the poorer classes of the population huddle, and form the foci of degradation and communicable diseases. This evil is beginning to be partially seen and corrected, and notably, as at Jacksonville, turned to good purposes. At this latter place a drainage canal is being built circumvallating the town, which, if well done, and scrupulously kept clean, will guard the future health and morals of the place. It is, as you well know, proverbial that moral and physical filth-diseases go together. What a blessing it would be to the world if those who lay the foundations of towns would so control their suburbs as to preclude, as by impregnable walls, the nastiness which clings to their skirts. One always passes the fine residences in towns and looks in through their windows with amazement that the occupants of the same can be so unconscious of the fact that in the hovels of their poor and ignorant neighbors are being generated the diseases which every breeze, and every passing unwashed human being, is the vehicle of. Why it is that every town has not its "Public Purposes Society" to study and remove the obvious causes of preventable disease, is a marvel passing strange. There is the hideous error everywhere believed, or ignorantly acted upon, that in some unexplained way filth becomes harmless when concealed in the ground or turned into running water. It will apparently take ages to teach men who build towns the truth that soil once polluted never cleanses itself, if the pollution saturates. And as we never know, except through the volcanic outbreak of disease, when such point of saturation is reached, why begin the dirty work at all, and incur the fearful risks? The hotels of Florida are generally excellent, and several of them are models of cleanliness and comfort. The water-closet of the Windsor Hotel, at Jacksonville, is itself a missionary enterprise. Mr. Orvis, the proprietor, may justly be classed among the benefactors of his race. He is said to have introduced broiled beefsteak and hair-mattresses into Florida, and his beneficent career is still going on.

Ever faithfully yours,

C. R. Agnew.

266 Madison Avenue, New York, December, 1881.

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Mr. Beecher's Surgical Ability.—In a sermon delivered recently, Mr. Beecher said that, while he was not a surgeon, he felt sure that he could cut a man's leg off if necessary, for he knew how to tie up an artery and draw the flaps over. Blessed were the men who had a little of everything in them.

## THE EXPULSION OF INSECTS FROM THE EXTERNAL AUDITORY CANAL.

To the Editor of The Medical Record.

Dear Sir: In an article upon "The Removal of Foreign Bodies from the Ear," published in The Record of December 10th, the lecturer is reported to have said, "When flies and maggots gain entrance to suppurating ears, the case is one for simple treatment with the syringe, first using some agent which will kill the fly or maggot, such as carbolic acid, Labarraques' solution, or the like; after this the stream of warm water may be employed. An attempt to remove them with the forceps only makes them more lively, and increases the difficulty of their removal."

The question of the removal of living insects from the ear is so important that we cannot refrain from calling attention to a method first discovered by the late Dr. John Ellis Blake, of this city, and described by him in the history of a case published in the *Boston Med. and Surg. Journal*, vol. lxvi., p. 214, 1862, and entitled "Larvæ of the Common Fly in the Meatus Auditorius Externus." The patient had suffered for four or five days with hemorrhage from the ear, and most excruciating pain. Of his interview with him, Dr. Blake gives the following graphic description: "With difficulty, owing to the flow of blood and the involuntary movements of the patient, I was able to introduce a speculum into the meatus, and get a glimpse into the interior. What was my astonishment to find it tenanted by several maggots in full activity! The movements of these creatures against the sensitive structures of the ear was evidently the cause of the pain, and their excavations in feeding the cause of the hemorrhage. The least attempt to remove them by instruments was resisted by them, and as they were immediately set in motion, thereby wriggling against the membrana tympani, the agony caused the patient was too much for human endurance, and he could not be held in the chair. I consequently desisted from such attempts, remembering some experiments I once saw tried upon these larvæ, tending to show their extreme tenacity of life for a time, even when immersed in caustic substances. I wasted no time after a few trials with syringing, but catching sight of a conical ether sponge upon the table, it occurred to me that anæsthesia might do. The sponge was wet with sulphuric ether and held for a few seconds over the ear, when we had the satisfaction of seeing the maggots wriggle from the ear in great haste on removing it. On looking in but one could be seen, and a reapplication of the sponge soon caused him to come out for fresh air. The whole number removed was eight or ten, and as the larvæ were of good size, I can hardly see how they could have been packed away so deeply in the passage."

Since the appearance of Dr. Blake's article, the method has been used with great success, as I have been informed by him, in various parts of the tropics, where such accidents are of more common occurrence than in our northern latitudes. A case was related in a Spanish journal about two years ago, in which larvæ in the *frontal sinus* were promptly expelled by the inhalation of chloroform. Prof. J. Solis Cohen, also, in his work upon diseases of the throat and nose, alludes to the use of anæsthetics in such cases. Of course, this method would apply to the treatment of any cavity of the body which could be invaded by an insect, and if any doubt existed as to the vapor of these drugs being insufficiently diffusible to enter a remote sinus, the operation might be assisted by the use of the spray atomizer. This, however, would seldom be necessary. The value of Dr. Blake's suggestion is too obvious to need comment. In the hope that it may not be permitted to fall into oblivion,

I am, very respectfully yours,

D. B. D.

59 West Thirty-eighth Street, New York.

## DISLOCATED SPLEEN IN HYPOGASTRIC REGION IN A WOMAN—EIGHT YEARS DURATION.

To the Editor of The Medical Record.

Dear Sir: I report the following case on account, 1st, of its being unusual; and 2d, in order that some one of your many readers may suggest, if possible, some mechanical appliance that may keep this refractory and aberrant organ in its place.

I was called on Sunday, October, 30, 1881, to see Mrs. A. R——, white, a widow, aged about thirty-two years. She presented an anæmic aspect, and was badly nourished; was a serving woman in a gentlemen's clothing store. She informed me that she had a tumor which she wished me to examine and prescribe for; that it had been treated by physicians as an ovarian tumor, and as a uterine fibrous tumor; that it had existed for about eight years; that it varied in size; was painful at times, especially when enlarged; that it seemed to sympathize with her menstrual flow, becoming more painful and tumified at that time, and whenever she had fever. From its position, the finger of slander had been pointed at her, it having been said of her that she was pregnant.

Upon examination, I found a flat, irregular, insensible tumor in the hypogastric region; movable, except at its lower edge, which seemed to be caught behind the symphisis pubis, and between that and the anterior vaginal wall; it was sulcated on the upper left edge. When she lay on her right side the tumor dropped over to the right iliac region, and could be turned on its edge, and the left edge made to tilt up and forward, so that you could pass your fingers behind it by pressing on the abdominal walls. By examination per vaginam, a projection was felt against the anterior wall. Suspecting it was the spleen, I pressed this body upward with my right finger in the vagina, and pushed the abdominal tumor upward with my left hand, when the mass escaped from its mooring, and floated free in the abdominal cavity. Pushing it in, I soon got it into the left hypochondrium, and pulling up the ribs got its upper edge well under them. Now I had an enlarged spleen *in situ*. I suppose in its longest diameter it would measure six inches, and about four inches transversely. The vesicle tenesmus was immediately relieved, and has not appeared since. This was mechanical in its cause. Upon close questioning, I found that the swelling began in the left hypochondrium. I think the cause of the dislocation was corset-constriction about the waist, and muscular exertion due to her having to labor for her own and children's support. The dislocation was gradual. Under restorative tonics and antiperiodics she has much improved, and the spleen is reduced. But it will not stay in its place when she is erect and working. Can any one suggest any appliance that will free the mechanical indication.

Very respectfully, Benjamin H. Riggs, M.D.

Selma, Ala., December, 1881.

## NO CODE OF MEDICAL ETHICS NEEDED.

To the Editor of The Medical Record.

Sir: I read all the articles I see on Ethics with interest, because I began practice as a strict follower of the Code; but varied experiences, humiliating and otherwise, have led me to believe the best code is the golden rule of doing unto others as you would have them do unto you. If a doctor is a *gentleman*, his good breeding and honorable principles will be his guide, regardless of any printed code, and he will rarely do wrong to another, either physician or patient; but, if he happens *not* to be a gentleman, then rules will not influence his actions.

Members of the profession have wide latitude as to fees, for each one rates his own services. This is wise and proper; and likewise, they should be allowed to regulate their professional actions with as much latitude, being guided solely by their sense of propriety and justness. There are some homœopaths I would meet in consultation, for they are not wedded to infinitesimals, and are well educated and cultivated ladies and gentlemen. If they or I can learn from each other for the benefit of those afflicted by disease, I see no reason why we should not meet together.

I have met ignorant midwives and relieved their patients, and I should not hesitate to go anywhere and meet any one if I thought I could help relieve suffering.

There are various points springing up all the time, which, to my mind, no code can cover, which a man or woman of correct principles and education can settle satisfactorily for themselves.

If a doctor whose services are worth five, ten, or twenty-five times my own is used by me, justice would tell me I should not use him gratuitously.

If a doctor wishes to advertise himself directly or indirectly, I say let him do so; but if I do not admire that style, then I need not do so.

Let there be a law that every M.D. shall have a *classical* education, and shall be graduated *practically* as well as *theoretically*, by a *high* standard, free to practise according to the knowledge he thinks he has, without restrictions of codes, according to his own sense of propriety, and I believe those who now practise regardless of others, will diminish in numbers, and there will be a fraternal feeling among all the schools, highly conducive to the dignity of the profession and to the welfare of the laity. In conclusion, I would say I am out and out a *regular* in prescriptions.

Yours respectfully,

D. B. C.

New York, December 1, 1881.

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The Electrical Bullet-Finder invented by Mr. Graham Bell, and used upon President Garfield with such signal lack of success, has been presented to the Académie des Sciences at Paris. The instrument is essentially the same as that described in the columns of the Record last summer. Two additional coils are added, however, which make the instrument more delicate. On October 7th, says the *Lancet*, an experiment was made, in the presence of Dr. Hamilton and others, on the person of Col. Clayton, who was wounded in 1862. The ball had passed through the articulation of the left clavicle. It was supposed to be lodged under the scapula, but by the new apparatus was readily found to be in front of and below the third rib.

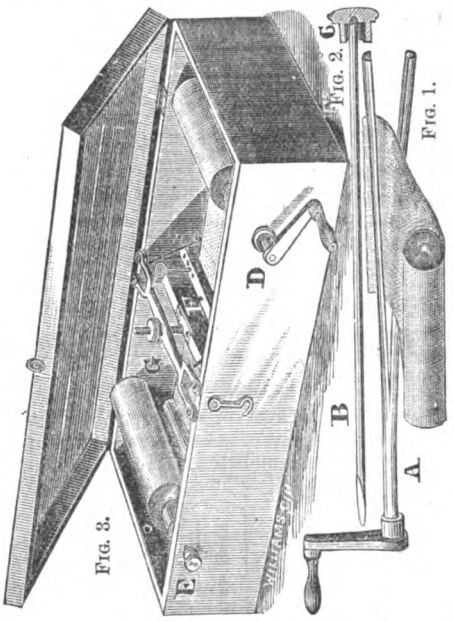
# New Instruments.

## A NEW APPARATUS FOR PREPARING PLASTER-OF-PARIS BANDAGES.

By WILLIAM JUDKINS, M.D.,

Surgeon to the Home for the Aged, Cincinnati, O.

One of the difficulties we have in making plaster-of-Paris bandages in any quantity, the profession well know, is the labor and tediousness, to say nothing of the dirt, with which the act is accomplished. To make light of one, and expedite the other, the accompanying cut and explanation will, I trust, make clear an idea on which some time and thought has been bestowed by the writer, with the result of having an apparatus that may be worked all day without fatigue, delay, or confusion. A brass tube (Fig. 1, A) six inches long by three-sixteenths of an




inch diameter, with a fine saw is slit lengthwise within an inch of its end, into which the handle is soldered. A solid brass pin (Fig. 2, B) one-eighth of an inch diameter five inches long, with a hollow brass cap C (sectional view) which, when fitted into the brass tube, the cap clasping the slit ends, produces a solid rod. Before using, the pin is withdrawn and the tube is introduced into the side of the box (Fig. 3, D). One end of the crinoline bandage on the pin E having been run under a bar near the bottom of the box, and through the gate of the regulator F, is inserted between the jaws of the tube, as shown in Fig. 1, and the latter is then carried through the opposite side of the box. The brass pin B is now slowly pushed through the tube and over the end of the bandage, its whole length clasping the extremity of the jaws in the cap. A pint or more of plaster is placed in the box at G, and the handle rapidly turned; the bandage, in its passage through the gate at F, has all superfluous plaster scraped from its surface, and passes on to the bar D with a coat of plaster

thoroughly impregnated in its meshes. As the gate in the regulator F is set at *any* height by a thumb-screw before commencing operations, the bandage may be charged of *any desired thickness*. Should any foreign material be in the plaster, which would tend to clog the free running of the bandage, there are, on the extreme sides of the regulator, rubber bands that will readily allow any such obstruction to pass. It is advisable when the tail end of the bandage presents at E to pin on a fresh one, and run the end under the bar and through the gate F, there it can be unpinned and the balance of the first bandage finished. After it is charged, the hollow capped pin is withdrawn on one side of the box, and the rod D on the other, the bandage falling to the floor of the box ready for use. From the numerous trials this apparatus has had by Messrs. M. Wocher & Son, of this city, who are the makers of same (and from whom the writer has received some valuable suggestions regarding it), and myself, I am confident that we *now* have an instrument which will prove a valuable addition to the armamentarium of the surgeon.

216 Race Street, Cincinnati, December, 1881.

## ARMY NEWS.

*Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from December* 18, 1881, *to December* 24, 1881.

Alexander, R. H., Major and Surgeon. The leave of absence granted him in S. O. 215, September 19, 1881, from A. G. O., is extended one month. S. O. 285, A. G. O., December 17, 1881.

## Medical Items and News.

Contagious Diseases — Weekly Statement. — **Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending December 24, 1881.**

| Week Ending | Typhus Fever. | Typhoid Fever. | Scarlet Fever. | Cerebro spinal Meningitis. | Measles. | Diphtheria. | Small-pox. | Yellow Fever. |
|---|---|---|---|---|---|---|---|---|
| Dec. 17, 1881. | 0 | 17 | 244 | 5 | 118 | 129 | 33 | 0 |
| Dec. 24, 1881. | 0 | 22 | 255 | 7 | 115 | 137 | 24 | 0 |

Jefferson Medical College.—The dean of this college writes to say that the medical class of that institution for this year is larger than that of last, thus correcting a statement quoted by us from the *Philadelphia Medical Times*.

Maternity Hospital, New York.—Dr. H. J. Garrigues, of this city, has been appointed Visiting Physician to the Maternity Hospital, vice Dr. W. T. Lusk, resigned.

Lunatic Asylum Reform.—The Legislative committee appointed to investigate abuses alleged to exist in many of the insane asylums in the State, as well as to report any legislation that may be found necessary to bring about improvement, met in this city December 15th. The session was devoted entirely to the examination of Dr. E. H. Chapin, Superintendent of the Willard Insane Asylum at Ovid. He testified that he had been Superintendent at the Willard Asylum since 1869, and had supervision of both chronic and recent cases of insanity. With regard to the employment of the patients at labor, he said that last summer 825 were thus employed, the largest number yet engaged in such a manner. It was found that the lunatics could do any kind of common farm and household work. They planted and cultivated potatoes, planted and reaped corn, harvested wheat, and cut hay. In the garden they took care of twenty-five acres of land on which vegetables of various kinds were raised. There was no compulsion whatever in this employment. The patients did as they were directed, either voluntarily or under the promise of a ration of tobacco. Assaults by one patient upon another have sometimes been reported, but there had never been any rebellion or serious violence of any kind because of the employment of the insane at such labor. They did not destroy the crops or implements, and it was found that occupation in the case of chronic patients gradually led them into a more rational mode of thought and action; they rested better at night, and were generally less boisterous. In fact, labor was found to be the best therapeutic agent that could be employed in such cases, and was better than medicine.

Dr. Chapin gave in detail his experiences during a four months' trip abroad, when he visited the asylums for paupers in Great Britain, France, Italy, and Belgium. In England he found the patients to be in better condition than here, and the whole system was superior in its results to that of America. The percentage of patients employed was much larger than in the United States. The males worked at trades in tailors' shops and shoe shops, and especially at weaving. The employment of women was also a marked feature in the foreign asylums. They sew and make up clothing for themselves and for the men, a piece of industry very rare in this country. In England the patients are removed in the day-time from the rooms they occupy at night to large rooms or wards, which removal is conducive to better discipline, and the development of better general health and industry among the inmates. In this country the patients are kept in small rooms or crowd the corridors, and there are none of the large rooms or wards that are used abroad as workshops. The architectural plans of the English asylums are also superior to those of like institutions in America. The percentage of patients employed at trades in the asylums visited by the witness was sixty-one, while in his own asylum the percentage was but twenty-six. In out-door work, however, American asylums can surpass the English. Mechanical restraints are abolished in England. Out of a total of fourteen thousand patients, he saw abroad but two who were restrained by mechanical devices. The necessity for such restraint does not appear to exist under the English system. Narcotic medicine is not so much used as it is here, but the number of attendants is greater, although they are prohibited in some cases from carrying a key or locking up the inmates. The doors are left unlocked, and even bars are removed from the windows, which the witness considered a great improvement, as the presence of such safeguards often excited the insane even more than the rational prisoner. The English attendants also are far superior to the American. While not more intelligent, they do their work better at much less pay, and are contented with their condition. Here it is very difficult to secure such attendance, or to obtain people who will remain as employés in an

asylum longer than from two to four years. Higher pay would not secure this desideratum.

The witness, being questioned as to suggestions which he could make regarding possible improvements in the present administration, said that the matter of facilitating the discharge of proper inmates should receive attention, and that changes might be made with a view of fixing more definitely the date of the certificate of admission, as to whether it reckoned from the time of the physician's examination or the completion of his affidavit. He thought that better results might be obtained than at present if the State Board of Charities and the Examiner in Lunacy worked together harmoniously, instead of laboring as if they were constantly invading the province of each other. One Commissioner in Lunacy was not sufficient for the 12,000 or more insane of the State, if his duties embraced the visitation and examination of the patients. Improvement might also be secured if there were some State board to lay down certain rules of management and plans of construction, which County Commissioners should be bound to respect and enforce. The confinement of patients in cellars or basement rooms, without proper light or adequate sized windows, should be prohibited. The asylums and rooms should further be regularly inspected by physicians. Something should be done also to afford immediate care of the insane who, while not paupers, are unable to obtain necessary medical treatment because of their inability to pay the rate charged by private institutions. At present there is no relief for such insane people, nor is there adequate accommodation for the insane poor at the public expense.

THE VIRCHOW CELEBRATION.—The sixtieth birthday of Professor Virchow, and the twenty-fifth anniversary of his professorship, took place at the Rathhaus, Berlin, on November 19th. The guests and the honors tendered him showed that his worth and genius were appreciated in all ranks and classes. About twelve hundred persons were present, including many ladies. Nearly all the Medical Faculty of Berlin were present. On the arrival of Virchow the band played a march from the "Tannhäuser," and the whole audience rose as he stepped on the platform. Councillor Friedel announced that contributions had flowed in from all parts of the civilized world, "from Archangel to Cadiz, from New York to Moscow," in aid of the endowment of an institution in honor of the great Professor, and Professor Stockvis, of Amsterdam, representing a Dutch committee which had forwarded a large sum with the same object, addressed him in an eloquent speech, in which he said: "You have raised on high the standard of science, the banner of humanity, the flag of free research, and this you have done with admirable modesty and consideration which have won for you all hearts—even those who do not agree with you on all points." The Director-General of the Royal Museum was present, but the royal family, who would have flocked to do honor to any one who had invented a new mode of man-killing, were conspicuously absent. An interesting deputation of four old men came from Schiwelbin, in Pomerania. After expressing the warm good wishes of their townsfolk, they stated their intention to place an inscription on the house where Virchow was born.

A number of other addresses were made from prominent scientific men, and from the delegates of various medical and scientific societies. Professor Virchow delivered an eloquent speech in reply. The affair concluded with a banquet.

THE SUMMONS AGAINST DR. FERRIER.—The *British Medical Journal*, under the head of "Obituary," gives a full account of the proceedings against Dr. Ferrier on account of his vivisections. The summons was dismissed. The charge caused much excitement among the English medical men, and has brought the subject of cerebral localization into great notice. The affair has ended happily for science, and has not been without good in drawing attention to many important facts in nerve physiology and pathology.

DR. WOOLSEY JOHNSON has been appointed one of the City Health Commissioners, in place of Dr. E. G. Janeway, resigned.

AMERICAN PORK TO BE PROHIBITED AGAIN.—In the Chamber of Deputies, December 13th, M. Gaudin questioned M. Rouvier, Minister of Commerce, in regard to the importation of American pork. M. Gaudin said that it ought not to be left to the importers themselves to take the necessary steps to prevent the importation of infected meat. After some discussion, he submitted a bill embodying the former prohibitory decree which the Government had withdrawn.

THE STATE BOARD OF HEALTH met at Albany December 13th, and made up its annual report. The reports of the analytical chemists on food adulteration were also read and considered.

DR. D. WARREN BRICKEL, a prominent physician of New Orleans, died December 12th, at the age of fifty-four years.

DR. THOMAS S. CURTIS, one of the surgeons to the Massachusetts General Hospital, in Boston, died suddenly December 12th, at the age of forty years. He was graduated at Harvard and in Paris, and was a member of many medical societies at home and abroad.

MR. HENRY BERGH has written a long letter to the President of the City Health Board, inveighing against the practice of vaccination. The letter contains a number of incorrect statements, and some very crude reasoning.

LISTERISM, according to Lawson Tait, "is one of the largest, best-blown, and most attractive bubbles ever displayed to a surgical audience."

The same authority asserts, with much flourish, that the next case of peritonitis to which he is called, even if it be puerperal, he will advise, and perform, if allowed, abdominal section, and will cleanse out the cavity and drain it.

Now, if Mr. Tait himself would only be the next case!

The other side of the Lister question is given by M. Lucas-Championnière, who claims for it the following results: The disappearance of wound-accidents, even in the worst circumstances; a regularity in repair hitherto unknown; surgery without suppuration; union by first intention, habitually and without danger; such rapidity in healing as to surpass all anticipation; the possibility and safety of operations hitherto considered dangerous and unjustifiable.

EXCISION OF THE THYROID GLAND, which may be classed among the notable operations of surgery, was recently performed with success by Mr. Walter Whitehead, at the Royal Manchester Infirmary. The patient, a woman, aged fifty-one, had had a small thyroid tumor for thirty years. In the past five years it had begun to grow rapidly, causing dyspnœa, and threatening strangulation. The tumor

was enucleated and removed with but very little loss of blood. It seemed to be fibro-cystic in character. The patient made a good recovery, except for an aphonia produced by the operation.

A Case of Syphilis Inoculated by Skin-Grafting was reported by M. Féréol at a meeting of the Société Médicale des Hôpitaux, Paris.

An International Sanitary Exhibition at Berlin.—An international exhibition of objects relating to public health and life-saving appliances will be held at Berlin in 1882, from the 1st of June to the 1st of October. A special invitation is extended to exhibitors in the United States. The Executive Committee have appointed Mr. H. W. Fabian, of New York, as special commissioner to receive applications and to furnish all necessary information. The exhibits are divided into the following sections:

A.—*Department of Public Health.*—This will include, among other things, soil and atmospheric air; removal of sewage, excrements, and garbage; providing towns with water; public baths; public instruction; dwellings; food products; clothing, and treatment of the skin; preventing contagious diseases; hospitals, medical establishments, and infirmaries; burial of the dead, vaults and morgues; veterinary department.

B.—*Department of Life-Saving*, which will include ambulances, hospitals, barracks and hospital-ships, and apparatus for taking care of the wounded in war.

Mineral Waters in Malaria.—In a communication received from Dr. S. E. Whiting, of Saratoga Springs, he claims that decidedly favorable results are obtained by the use of mineral water in malaria. His observations seem to extend over considerable space of time during the growing prevalence of the disease.

He also maintains that the water in its *best* effect is *constitutional* and *elementary* in its tonic action on the system; a *builder-up* and a *repairer* of *wasted energies* in our organism. He observes that after a few weeks' use of the water—sometimes sooner—*well-marked periodicity* of chills and fever are developed that had never existed; that the system seemed *toned up* by its use, and brought within the reach and influence of quinine and other remedies that had *failed* before.

He states that the development of these *characteristics* of the disease are the first *evidences* of *returning health*, and are proofs of the strong alterative effect as well as its powerful *eliminating* properties.

This result is not obtained by the spasmodic drinking of large quantities of mineral water, but by persistent *daily alterative* doses after a short course of active catharticism.

Treatment of Locomotor Ataxia by Training and by Mechanical Vibrations.—Dr. J. Mortimer Granville (*Practitioner*) recommends a careful and persistent training of the "muscular sense" in ataxia as a remedy for the loss of co-ordination. He would have them first learn to stand for a quarter of an hour, then half an hour a day, with the eyes closed Then they must be gradually taught to walk with the eyes closed. Dr. Granville is confident that such a process will be very effectual, but cites no cases in proof.

He also says that marked benefit seems likely to attend the use of mechanical vibrations applied to the spine.

Dr. Granville has an ingenious mind, but in the present case he seems to be writing from his closet.

A New Ophthalmic Journal.—The *Ophthalmic Review* is the title of a new monthly journal, edited by Drs. Karl Grossman and Priestley Smith, and published by G. & A. Churchill, London. The journal presents a good appearance; a large part of the contents consists of critical reviews.

Prizes Offered by the French Association Against the Abuse of Tobacco.—The Association has already earned a good reputation for the earnestness, yet moderation, with which it treats the tobacco question, and aims to establish, on a scientific basis, the evils growing not from the use, but the misuse of tobacco.

For the year 1881, the society offers the following prizes:

N° 2. — Prix Médical. — Quelle est l'influence du tabac sur la marche de la grossesse et sur la lactation chez les femmes qui font usage du tabac, qui en respirent la fumée, ou qui travaillent à sa manipulation. Présenter des observations recueillies sur les personnes, et, s'il est possible, des expériences chez les animaux. — Deux cents francs.

N° 3.—Prix fondé par M. le Dr. A. Berthrand.—Déterminer, par des considérations psychologiques, avec faits bien observés à l'appui, l'influence que l'habitude excessive du tabac détermine sur le *moral*, le *caractère* et les *rapports sociaux* des fumeurs. The prize consists in books to the value of about two hundred francs, and bronze medal.

Jaborandi in Croup has been successfully used by Dr. W. N. Ames, who reports his case in the *Medical and Surgical Reporter*.

The German and Swiss Universities.—The *Deutscher Universitäts-Kalender* for 1881–82 gives the following official statistics: In the winter term of 1881–82 the twenty-one German universities have 1,930 teachers. Of this number 730 are regular professors, 794 clinical or assistant professors, 50 emeritus professors, 466 assistants or privatdocents, and 45 tutors. In the summer term there were in all 22,612 students, among which 20,846 were regularly matriculated, while 1,766 were only entitled to attend lectures; 4,883 were students of medicine and pharmacy. Their distribution was as follows: Berlin, 576; Bonn, 187; Breslau, 295; Erlangen, 113; Freiburg, 300; Giessen, 101; Göttingen, 151; Greifswald, 316; Halle, 190; Heidelberg, 147; Jena, 85; Kiel, 119; Königsberg, 175; Leipzig, 455; Marburg, 158; München, 545; Rostock, 60; Strassburg, 171; Tübingen, 164; and Würzburg, 473.

At the three Swiss universities, 240 teachers are employed. Of this number 112 are regular professors, 33 assistant or clinical professors, 6 emeritus professors, 90 privatdocents, and 9 tutors. There were 1,135 students, of which number 404 were studying medicine, with the following distribution: Basel, 100; Berne, 148; and Zürich, 156.

Dr. E. G. Maupin, Acting Physician-in-Chief to the State Emigrant Hospital on Ward's Island, has resigned.

The Man who Sells Bogus Mucilage.—A man is visiting physicians' offices selling "Compound Mucilage" in cakes or tablets. The article is utterly worthless, becoming in two or three days dry and hard. In its fresh, moist condition, as offered for sale, it is apparently desirable, and nearly every one is deceived by it.

Impure Milk.—Nineteen persons have been convicted for selling impure milk.

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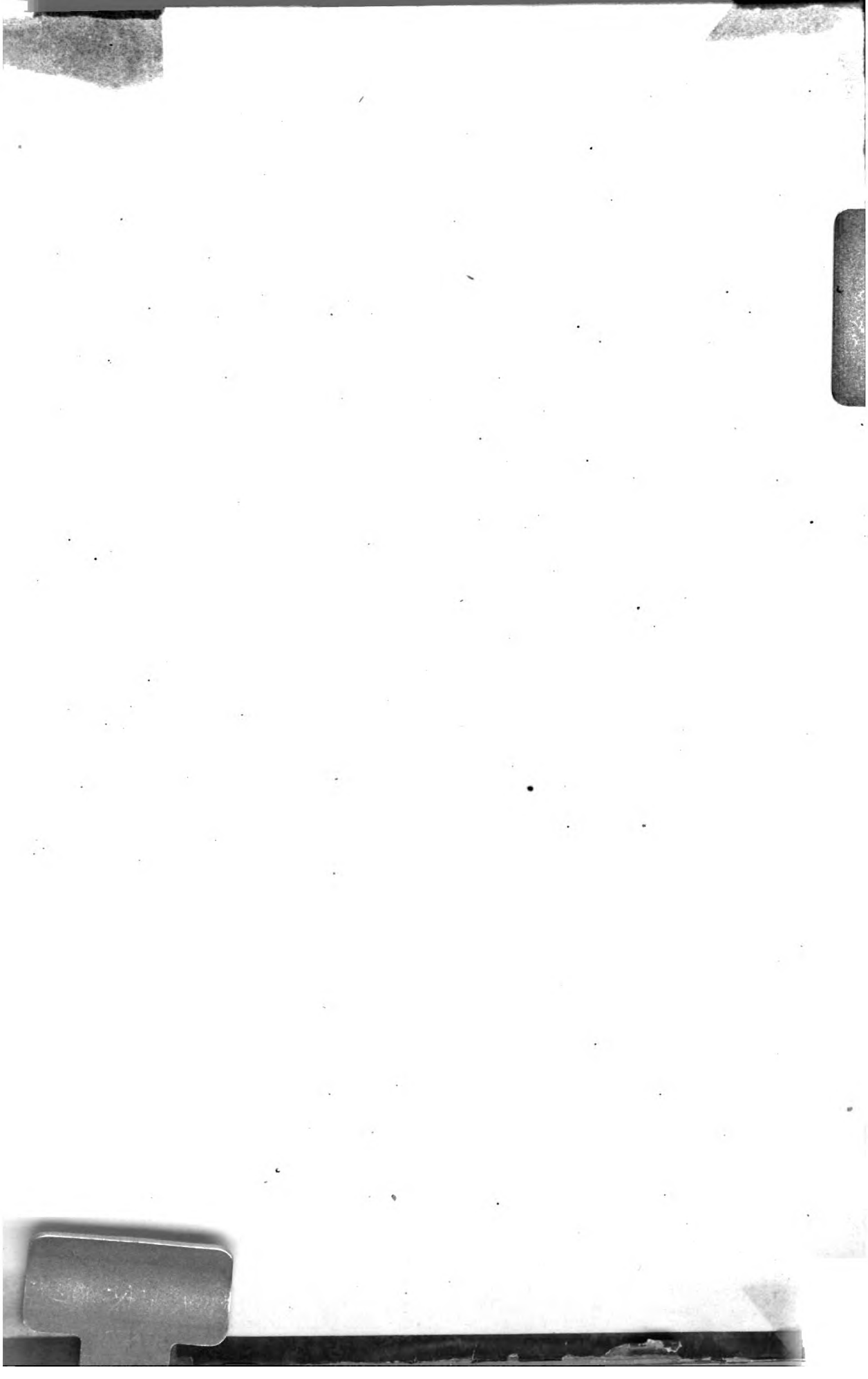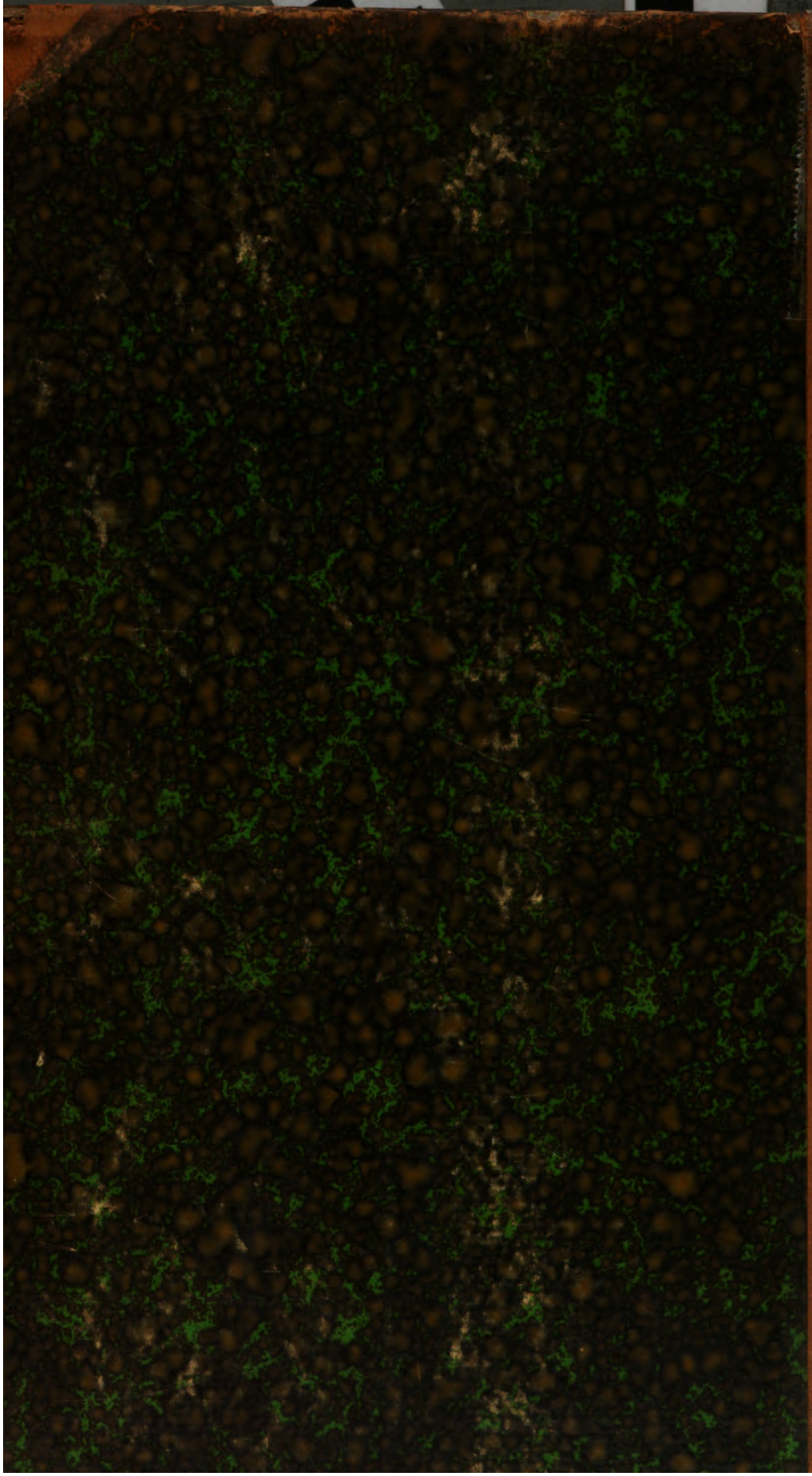
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